contain recommendations for remedial work when appropriate, and will be transmitted through the Division Engineer for review and to HQDA (DAEN-CWE) WASH DC 20314 for review and approval. For structures incurring no damage a simple statement to this effect will be all that is required in the report, unless seismic instrumentation at the project is activated. (See paragraph (h)(4) of this section.)

(g) Training. The dam safety training program covered by paragraph 6 of ER 1130-2-419 should include post-earthquake inspections and the types of damage operations personnel should

look for.

(h) Responsibilities. (1) The Engineering Divisions of the District offices will formulate the inspection program, conduct the post-earthquake inspections, process and analyze the data of instrumental and other observations, evaluate the resulting condition of the structures, and prepare the inspection reports. The Engineering division is also responsible for planning special instrumentation felt necessary in selected structures under this program. Engineering Division is responsible for providing the training discussed in paragraph (g) of this section.

(2) The Construction Divisions of the District offices will be responsible for the installation of the earthquake instrumentation devices and for data collection if an earthquake occurs during

the construction period.

(3) The Operations Division of the District offices will be responsible for the immediate assessment of earthquake damage and notifying the Chief, Engineering Division as discussed in paragraphs (f)(1) and (2). The Operations Division will also be responsible for earthquake data collection after the construction period in accordance with the instrumental observation programs, and will assist and participate in the post-earthquake inspections.

(4) The U.S. Geological Survey has the responsibility for servicing and collecting all data from strong motion instrumentation at Corps of Engineers dam projects following an earthquake occurrence. However, the U.S. Army Waterways Experiment Station (WES) is assigned the responsibility for analyzing and interpreting these earth-

quake data. Whenever a recordable earthquake record is obtained from seismic instrumentation at a Corps project, the Division will send a report of all pertinent instrumentation data to the Waterways Experiment Station, ATTN: WESGH, P.O. Box 631, Vicksburg, Mississippi 39180. The report on each project should include a complete description of the locations and types of instruments and a copy of the instrumental records from each of the strong motion machines activated. (Exempt from requirements control under paragraph 7-2v, AR 335-15).

(5) The Engineering Divisions of the Division offices will select structures for special instrumentation for earthquake effects, and will review and monitor the data collection, processing, evaluating, and inspecting activities. They will also be specifically responsible for promptly informing HQDA (DAEN-CWE) WASH DC 20314, when evaluation of the condition of the structure or analyses of the instrumentation data indicate the stability of a structure is questionable. (Exempt for requirements control under paragraph 7-2o, AR 335-15.)

(6) Division Engineers are responsible for issuing any supplementary regulations necessary to adapt the policies and instructions herein to the specific conditions within their Division.

(i) Funding. Funding for the evaluation and inspection program will be under the Appropriation 96X3123, Operations and Maintenance. General. Funds required for the inspections, including Travel and Per Diem costs incurred by personnel of the Division office or the Office, Chief of Engineers, will be from allocations made to the various projects for the fiscal year in which the inspection occurs.

[44 FR 43469, July 25, 1979. Redesignated at 60 FR 19851, Apr. 21, 1995]

§222.5 Water control management (ER 1110-2-240).

(a) Purpose. This regulation prescribes policies and procedures to be followed by the U.S. Army Corps of Engineers in carrying out water control management activities, including establishment of water control plans for Corps and non-Corps projects, as required by Federal laws and directives.

(b) *Applicability*. This regulation is applicable to all field operating activities having civil works responsibilities.

(c) References. Appendix A lists U.S. Army Corps of Engineers publications and sections of Federal statutes and regulations that are referenced herein.

- (d) Authorities—(1) U.S. Army Corps of Engineers projects. Authorities for allocation of storage and regulation of projects owned and operated by the Corps of Engineers are contained in legislative authorization acts and referenced project documents. These public laws and project documents usually contain provisions for development of water control plans, and appropriate revisions thereto, under the discretionary authority of the Chief of Engineers. Some modifications in project operation are permitted under congressional enactments subsequent to original project authorization. Questions that require interpretations of authorizations affecting regulation of specific reservoirs will be referred to CDR USACE (DAEN-CWE-HW), WASH DC 20314, with appropriate background information and analysis, for resolution.
- (2) Non-Corps projects. The Corps of Engineers is responsible for prescribing flood control and navigation regulations for certain reservoir projects constructed or operated by other Federal, non-Federal or private agencies. There are several classes of such projects: Those authorized by special acts of Congress; those for which licenses issued by the Federal Energy Regulatory Commission (formerly Federal Power Commission) provide that operation shall be in accordance with instructions of the Secretary of the Army; those covered by agreements between the operating agency and the Corps of Engineers; and those that fall under the terms of general legislative and administrative provisions. These authorities, of illustrative examples, are described briefly in Appendix B.
- (e) Terminology: Water control plans and reservoir regulation schedules. (1) Water control plans include coordinated regulation schedules for project/system regulation and such additional provisions as may be required to collect, analyze and disseminate basic data, prepare detailed operating instructions, assure project safety and

carry out regulation of projects in an appropriate manner.

(2) The term "reservoir regulation schedule" refers to a compilation of operating criteria, guidelines, rule curves and specifications that govern basically the storage and release functions of a reservoir. In general, schedules indicate limiting rates of reservoir releases required during various seasons of the year to meet all functional objectives of the particular project, acting separately or in combination with other projects in a system. Schedules are usually expressed in the form of graphs and tabulations, supplemented

by concise specifications.

- (f) General policies. (1) Water control plans will be developed for reservoirs, locks and dams, reregulation and major control structures and interrelated systems to comform with objectives and specific provisions of authorizing legislation and applicable Corps of Engineers reports. They will include any applicable authorities established after project construction. The water control plans will be prepared giving appropriate consideration to all applicable Congressional Acts relating to operation of Federal facilities, i.e., Fish and Wildlife Coordination Act (Pub. L. 85-624), Federal Water Project Recreation Act-Uniform Policies (Pub. L. 89-72), National Environmental Policy Act of 1969 (Pub. L. 91-190), and Clean Water Act of 1977 (Pub. L. 95-217). Thorough analysis and testing studies will be made as necessary to establish the optimum water control plans possible within prevailing constraints.
- (2) Necessary actions will be taken to keep approved water control plans upto-date. For this purpose, plans will be subject to continuing and progressive study by personnel in field offices of the Corps of Engineers. These personnel will be professionally qualified in technical areas involved and familiar with comprehensive project objectives and other factors affecting water control. Organizational requirements for water control management are further discussed in ER 1110-2-1400.
- (3) Water control plans developed for specific projects and reservoir systems will be clearly documented in appropriate water control manuals. These

manuals will be prepared to meet initial requirements when storage in the reservoir begins. They will be revised as necessary to conform with changing requirements resulting from developments in the project area and downstream, improvements in technology, new legislation and other relevant factors, provided such revisions comply with existing Federal regulations and established Corps of Engineers policy.

- (4) Development and execution of water control plans will include appropriate consideration for efficient water management in conformance with the emphasis on water conservation as a national priority. The objectives of efficient water control management are to produce beneficial water savings and improvements in the availability and quality of water resulting from project regulation/operation. Balanced source use through improved regulation should be developed to conserve as much water as possible and maximize all project functions consistent with project/system management. Continuous examination should be made of regulation schedules, possible need for storage reallocation (within existing authority and constraints) and to identify needed changes in normal regulation. Emphasis should be placed on evaluating conditions that could require deviation from normal release schedules as part of drought contingency plans (ER 1110-2-1941).
- (5) Adequate provisions for collection, analysis and dissemination of basic data, the formulation of specific project regulation directives, and the performance of project regulation will be established at field level.
- (6) Appropriate provisions will be made for monitoring project operations, formulating advisories to higher authorities, and disseminating information to others concerned. These actions are required to facilitate proper regulation of systems and to keep the public fully informed regarding all pertinent water control matters.
- (7) In development and execution of water control plans, appropriate attention will be given to project safety in accordance with ER 1130-2-417 and ER 1130-2-419 so as to insure that all water impounding structures are operated for the safety of users of the facilities and

the general public. Care will be exercised in the development of reservoir regulation schedules to assure that controlled releases minimize project impacts and do not jeopardize the safety of persons engaged in activities downstream of the facility. Water control plans will include provisions for issuing adequate warnings or otherwise alerting all affected interests to possible hazards from project regulation activities.

(8) In carrying out water control activities, Corps of Engineers personnel must recognize and observe the legal responsibility of the National Weather Service (NWS), National Oceanic and Atmospheric Administration (NOAA), for issuing weather forecasts and flood warnings, including river discharges and stages. River forecasts prepared by the Corps of Engineers in the execution of its responsibilities should not be released to the general public, unless the NWS is willing to make the release or agrees to such dissemination. However, release to interested parties of factual information on current storms or river conditions and properly quoted NWS forecasts is permissible. District offices are encouraged to provide assistance to communities and individuals regarding the impact of forecasted floods. Typical advice would be to provide approximate water surface elevations at locations upstream and downstream of the NWS forecasting stream gages. Announcement of anticipated changes in reservoir release rates as far in advance as possible to the general public is the responsibility of Corps of Engineers water control managers for projects under their jurisdiction.

(9) Water control plans will be developed in concert with all basin interests which are or could be impacted by or have an influence on project regulation. Close coordination will be maintained with all appropriate international, Federal, State, regional and local agencies in the development and execution of water control plans. Effective public information programs will be developed and maintained so as to inform and educate the public regarding Corps of Engineers water control management activities.

(10) Fiscal year budget requests for water control management activities

will be prepared and submitted to the Office of the Chief of Engineers in accordance with requirements established in Engineer Circular on Annual Budget Requests for Civil Works Activities. The total annual costs of all activities and facilities that support the water control functions, (excluding physical operation of projects, but including flood control and navigation regulation of projects subject to 33 CFR 208.11) are to be reported. Information on the Water Control Data Systems and associated Communications Category of the Plant Replacement and Improvement Program will be submitted with the annual budget. Reporting will be in accordance with the annual Engineer Circular on Civil Works Operations and Maintenance, General

(g) Responsibilities: US Army Corps of Engineers projects—(1) Preparation of water control plans and manuals. Normally, district commanders are primarily responsible for background studies and for developing plans and manuals required for reservoirs, locks and dams, reregulation and major control structures and interrelated systems in their respective district areas. Policies and general guidelines are prescribed by OCE engineer regulations while specific requirements to implement OCE guidance are established by the division commanders concerned. Master Water Control Manuals for river basins that include more than one district are usually prepared by or under direct supervision of division representatives. Division commanders are responsible for providing such management and technical assistance as may be required to assure that plans and manuals are prepared on a timely and adequate basis to meet water control requirements in the division area, and for pertinent coordination among districts, divisions, and other appropriate entities.

(2) Public involvement and information—(i) Public meeting and public involvement. The Corps of Engineers will sponsor public involvement activities, as appropriate, to appraise the general public of the water control plan. In developing or modifying water control manuals, the following criteria is applicable.

- (A) Conditions that require public involvement and public meetings include: Development of a new water control manual that includes a water control plan; or revision or update of a water control manual that changes the water control plan.
- (B) Revisions to water control manuals that are administratively or informational in nature and that do not change the water control plan do not require public meetings.
- (C) For those conditions described in paragraph (g)(2)(i)(A) of this section, the Corps will provide information to the public concerning proposed water control management decisions at least 30 days in advance of a public meeting. In so doing, a separate document(s) should be prepared that explains the recommended water control plan or change, and provides technical information explaining the basis for the recommendation. It should include a description of its impacts (both monetary and nonmonetary) for various purposes, and the comparisons with alternative plans or changes and their effects. The plan or manual will be prepared only after the public involvement process associated with its development or change is complete.
- (D) For those conditions described in paragraph (g)(2)(i)(A) of this section, the responsible division office will send each proposed water control manual to the Army Corps of Engineers Head-quarters, Attn: CECW-EH-W for review and comments prior to approval by the responsible division office.
- (ii) Information availability. The water control manual will be made available for examination by the general public upon request at the appropriate office of the Corps of Engineers. Public notice shall be given in the event of occurring or anticipated significant changes in reservoir storage or flow releases. The method of conveying this information shall be commensurate with the urgency of the situation and the lead time available.
- (3) Authority for approval of plans and manuals. Division commanders are delegated authority for approval of water control plans and manuals, and associated activities.

- (4) OCE role in water control activities. OCE will establish policies and guidelines applicable to all field offices and for such actions as are necessary to assure a reasonable degree of consistency in basic policies and practices in all Division areas. Assistance will be provided to field offices during emergencies and upon special request.
- (5) Methods improvement and staff training. Division and district commanders are responsible for conducting appropriate programs for improving technical methods applicable to water control activities in their respective Suitable training programs should be maintained to assure a satisfactory performance capability water control activities. Appropriate coordination of such programs with similar activities in other areas will be accomplished to avoid duplication of effort, and to foster desirable exchange of ideas and developments. Initiative in re-evaluating methods and guidelines previously established in official documents referred to in paragraph (e) of this section is encouraged where needs are evident. However, proposals for major deviations from basic concepts, policies and general practices reflected in official publications will be submitted to CDR USACE (DAEN-CWE) WASH DC 20314 for concurrence or comment before being adopted for substantial application in actual project regulation at field level.
- (h) Directives and technical instruction manuals. (1) Directives issued through OCE Engineer Regulations will be used to foster consistency in policies and basic practices. They will be supplemented as needed by other forms of communication.
- (2) Engineering Manuals (EM) and Engineer Technical Letters (ETL) are issued by OCE to serve as general guidelines and technical aids in developing water control plans and manuals for individual projects or systems.
- (3) EM 1110-2-3600 discusses principles and concepts involved in developing water control plans. Instructions relating to preparation of "Water Control Manuals for speicfic projects" are included. EM 1110-2-3600 should be used as a general guide to water control activities. The instructions are sufficiently flexible to permit adaptation to

- specific regions. Supplemental information regarding technical methods is provided in numerous documents distributed to field offices as "hydrologic references."
- (4) Special assistance in technical studies is available from the Hydrologic Engineering Center, Corps of Engineers, 609 Second Street, Davis, California 95616 and DAEN-CWE-HW.
- (i) Water control manuals for US Army Corps of Engineers projects. (1) As used herein, the term "water control manual" refers to manuals that relate primarily to the functional regulation of an individual project or system of projects. Although such manuals normally include background information concerning physical features of projects, they do not prescribe rules or methods for physical maintenance or care of facilities, which are covered in other documents. (References 15 and 23, Appendix A.)
- (2) Water control manuals prepared in substantially the detail and format specified in instructions referred to in paragraph 8 are required for all reservoirs under the supervision of the Corps of Engineers, regardless of the purpose or size of the project. Water Control manuals are also required for lock and dam, reregulation and major control structure projects that are physically regulated by the Corps of Engineers. Where there are several projects in a drainage basin with interrelated purposes, a "Master Manual" shall be prepared. The effects of non-Corps projects will be considered in appropriate detail, including an indication of provisions for interagency coordination.
- (3) "Preliminary water control manuals," for projects regulated by the Corps of Engineers should contain regulation schedules in sufficient detail to establish the basic plan of initial project regulation.
- (4) As a general rule, preliminary manuals should be superseded by more detailed interim or "final" manuals within approximately one year after the project is placed in operation.
- (5) Each water control manual will contain a section on special regulations to be conducted during emergency situations, including droughts.

Preplanned operations and coordination are essential to effective relief or assistance.

- (6) One copy of all water control manuals and subsequent revisions shall be forwarded to DAEN-CWE-HW for file purposes as soon as practicable after completion, preferably within 30 days from date of approval at the division level.
- (j) Policies and requirements for preparing regulations for non-Corps projects. (1) Division and district commanders will develop water control plans as required by section 7 of the 1944 Flood Control Act, the Federal Power Act and section 9 of Pub. L. 436-83 for all projects located within their areas, in conformance with ER 1110-2-241, 33 CFR part 208. That regulation prescribes the policy and general procedures for regulating reservoir projects capable of regulation for flood control or navigation, except projects owned and operated by the Corps of Engineers; the International Boundary and Water Commission, United States and Mexico; those under the jurisdiction of the International Joint Commission, United States and Canada, and the Columbia River Treaty. ER 1110-2-241, 33 CFR part 208 permits the promulgation of specific regulations for a project in compliance with the authorizing acts, when agreement on acceptable regulations cannot be reached between the Corps Engineers and the owners. Appendix B provides a summary of the Corps of Engineers responsibilities for prescribing regulations for non-Corps reservoir projects.
- (2) Water control plans will be developed and processed as soon as possible for applicable projects already completed and being operated by other entities, including projects built by the Corps of Engineers and turned over to others for operation.
- (3) In so far as practicable, water control plans for non-Corps projects should be developed in cooperation with owning/operating agencies involved during project planning stages. Thus, tentative agreements on contents, including pertinent regulation schedules and diagrams, can be accomplished prior to completion of the project.
- (4) The magnitude and nature of storage allocations for flood control or

navigation purposes in non-Corps projects are governed basically by conditions of project authorizations or other legislative provisions and may include any or all of the following types of storage assignments:

(i) Year-round allocations: Storage

remains the same all year.

- (ii) Seasonal allocations: Storage varies on a fixed seasonal basis.
- (iii) Variable allocations of flood control from year to year, depending on hydrologic parameters, such as snow cover.
- (5) Water control plans should be developed to attain maximum flood control or navigation benefits, consistent with other project requirements, from the storage space provided for these purposes. When reservoir storage capacity of the category referred to in paragraph (j)(4)(iii) is utilized for flood control or navigation, jointly with other objectives, the hydrologic parameters and related rules developed under provisions of ER 1110-2-241, 33 CFR part 208 should conform as equitably as possible with the multiple-purpose objectives established in project authorizations and other pertinent legislation.
- (6) Storage allocations made for flood control or navigation purposes in non-Corps projects are not subject to modifications by the Corps of Engineers as a prerequisite for prescribing 33 CFR 208.11 regulations. However, regulations developed for use of such storage should be predicated on a mutual understanding between representatives of the Corps and the operating agency concerning the conditions of the allocations in order to assure reasonable achievement of basic objectives intended. In the event field representatives of the Corps of Engineers, and the operating agency are unable to reach necessary agreements after all reasonable possibilities have been explored, appropriate background explanations and recommendations should be submitted to DAEN-CWE-HW for consideration.
- (7) The Chief of Engineers is responsible for prescribing regulations for use of flood control or navigation storage and/or project operation under the provisions of the referenced legislative acts. Accordingly, any regulations established should designate the division/

district commander who is responsible to the Chief of Engineers as the representative to issue any special instructions required under the regulation. However, to the extent practicable, project regulations should be written to permit operation of the project by the owner without interpretations of the regulations by the designated representative of the Commander during operating periods.

(8) Responsibility for compliance with 33 CFR 208.11 regulations rests with the operating agency. The division or district commander of the area in which the project is located will be kept informed regarding project operations to verify reasonable conformance with the regulations. The Chief of Engineers or his designated representative may authorize or direct deviation from the established water control plan when conditions warrant such deviation. In the event unapproved deviations from the prescribed regulations seem evident, the division or district commander concerned will bring the matter to the attention of the operating agency by appropriate means.

If corrective actions are not taken promptly, the operating agency should be notified of the apparent deviation in writing as a matter of record. Should an impasse arise, in that the project owner or the designated operating entity persists in noncompliance with regulations prescribed by the Corps of Engineers, the Office of Chief Counsel should be advised through normal channels and requested to take necessary measures to assure compliance.

(9) Regulations should contain information regarding the required exchange of basic data between the representative of the operating agency and the U.S. Army Corps of Engineers, that are pertinent to regulation and coordination of interrelated projects in the region.

(10) All 33 CFR 208.11 regulations shall contain provisions authorizing the operating agency to temporarily deviate from the regulations in the event that it is necessary for emergency reasons to protect the safety of the dam, to avoid health hazards, and to alleviate other critical situations.

(k) Developing and processing regulations for non-Corps projects. Guidelines concerning technical studies and development of regulations are contained in ER 1110-2-241, 33 CFR part 208 and EM 1110-2-3600. Appendix C of this regulation summarizes steps normally followed in developing and processing regulations for non-Corps projects.

(l) Water control during project construction stage. Water control plans discussed in preceding paragraphs are intended primarily for application after the dam, spillway and outlet structures; major relocations; land acquisitions, administrative arrangements and other project requirements have reached stages that permit relatively normal project regulation. With respect to non-Corps projects, regulations normally become applicable when water control agreements have been signed by the designated signatories, subject to special provisions in specific cases. In some instances, implementation of regulations has been delayed by legal provisions, contract limitations, or other considerations. These delays can result in loss of potential project benefits and possible hazards. Accordingly, it is essential that appropriate water control and contingency plans be established for use from the date any storage may accumulate behind a partially completed dam until the project is formally accepted for normal operations. Division commanders shall make certain that construction-stage regulation plans are established and maintained in a timely and adequate manner for projects under the supervision of the Corps of Engineers. In addition, the problems referred to should be discussed with authorities who are responsible for non-Corps projects, with the objective of assuring that such projects operate as safely and effectively as possible during the critical construction stage and any period that may elapse before regular operating arrangements have been established. These special regulation plans should include consideration for protection of construction operations; safety of downstream interests that might be jeopardized by failure of partially completed embankments; requirements for minimizing adverse effects on partially completed relocations or incomplete land acquisition; and the need for obtaining benefits from project storage

that can be safely achieved during the construction and early operation period.

- (m) Advisories to OCE regarding water control activities—(1) General. Division commanders will keep the Chief of Engineers currently informed of any unusual problems or activities associated with water control that impact on his responsibilities.
- (2) Annual division water control management report (RCS DAEN-CWE-16(R1)). Division commanders will submit an annual report on water control management activities within their division. The annual report will be submitted to (DAEN-CWE-HW) by 1 February each year and cover significant activities of the previous water year and a description of activities to be accomplished for the current year. Funding information for water control activities will be provided in the letter of transmittal for in-house use only. The primary objective of this summary is to keep the Chief of Engineers informed regarding overall water management activities Corps-wide, thus providing a basis to carry out OCE responsibilities set forth in paragraph (g)(4) of this section.
- (3) Status of water control manuals. A brief discussion shall be prepared annually by each division commander, as a separate section of the annual report on water control management activities discussed in paragraph (m)(2) of this section listing all projects currently in operation in his area, or expected to begin operation within one-year, with a designation of the status of water control manuals. The report should also list projects for which the Corps of Engineers is responsible for prescribing regulations, as defined in ER 1110-2-241, 33 CFR part 208.
- (4) Monthly water control charts (RCS DAEN-CWE-6 (R1)). A monthly record of reservoirs/lakes operated by the Corps of Engineers and other agencies, in accordance with 33 CFR 208.11, will be promptly prepared and maintained by district/division commanders in a form readily available for transmittal to the Chief of Engineers, or others, upon request. Record data may be prepared in either graphical form as shown in EM 1110-2-3600, or tabular

form as shown in the sample tabulation in Appendix D.

- (5) Annual division water quality reports (RCS DAEN-CWE-15). By Executive Order 12088, the President ordered the head of each Executive Agency to be responsible for ensuring that all necessary actions are taken for prevention, control, and abatement of environmental pollution with respect to Federal facilities and activities under control of the agency. General guidance is provided in references 24 and 25, Appendix A, for carrying out this agency's responsibility. Annual division water quality reports are required by reference 24, Appendix A. The report is submitted in two parts. The first part addresses the division Water quality management plan while the second part presents specific project information. A major objective of this report is to summarize information pertinent to water quality aspects of overall water management responsibilities. The annual division water quality report may be submitted along with the annual report on water control management activities discussed in paragraph 13b above.
- (6) Master plans for water control data systems (RCS DAEN-CWE-21). (i) A water control data system is all of the equipment within a division which is used to acquire, process, display and distribute information for real-time project regulation and associated interagency coordination. A subsystem is all equipment as defined previously within a district. A network is all equipment as defined previously which is used to regulate a single project or a group of projects which must be regulated interdependently.
- (ii) Master plans for water control data systems and significant revisions thereto will be prepared by division water control managers and submitted to DAEN-CWE-HW by 1 February each year for review and approval of engineering aspects. Engineering approval does not constitute funding approval. After engineering approval is obtained, equipment in the master plan is eligible for consideration in the funding processes described in ER 1125-2-301

and engineering circulars on the annual budget request for civil works activities. Master plans will be maintained current and will:

- (A) Outline the system performance requirements, including those resulting from any expected expansions of Corps missions.
- (B) Describe the extent to which existing facilities fulfill performance requirements.
- (C) Describe alternative approaches which will upgrade the system to meet the requirements not fulfilled by existing facilities, or are more cost effective then the existing system.
- (D) Justify and recommend a system considering timeliness, reliability, economics and other factors deemed important.
- (E) Delineate system scope, implementation schedules, proposed annual capital expenditures by district, total costs, and sources of funding.
- (iii) Modified master plans should be submitted to DAEN-CWE-HW by 1 February, whenever revisions are required, to include equipment not previously approved or changes in scope or approach. Submittal by the February date will allow adequate time for OCE review and approval prior to annual budget submittals.
- (iv) Division commanders are delegated authority to approve detailed plans for subsystems and networks of approved master plans. Plans approved by the division commander should meet the following conditions:
- (A) The plan conforms to an approved master plan.
- (B) The equipment is capable of functioning independently.
- (C) An evaluation of alternatives has been completed considering reliability, cost and other important factors.
- (D) The plan is economically justified, except in special cases where legal requirements dictate performance standards which cannot be economically justified.
- (v) Copies of plans approved by the division commander shall be forwarded to appropriate elements in OCE in support of funding requests and to obtain approval of Automatic Data Processing Equipment (ADPE), when applicable.
- (vi) Water control data systems may be funded from Plant Revolving Fund;

O&M General; Flood Control, MR&T, and Construction, General. Funding for water control equipment that serves two or more projects will be from Plant Revolving Fund in accordance with ER 1125-2-301. District and division water control managers will coordinate plant revolving fund requests with their respective Plant Replacement and Improvement Program (PRIP) representatives following guidance provided in ER 1125-2-301. Budget funding requests under the proper appropriation title should be submitted only if the equipment is identified in an approved master plan.

(vii) Justification for the Automatic Data Processing Equipment (ADPE) aspects of water control data systems must conform to AR 18–1, Appendix I or J as required. The "Funding for ADPE" paragraph in Appendixes I and J must cite the source of funds and reference relevant information in the approved master plan and detailed plan.

(viii) Division water control managers will submit annual letter summaries of the status of their respective water control systems and five-year plan for improvements. These summaries will be submitted to DAEN-CWE by 1 June for coordination with DAEN-CWO, CWB and DSZ-A, prior to the annual budget request. Summaries should not be used to obtain approval of significant changes in master plans. Sources of funding for all items for each district and for the division should be delineated so that total system expenditures and funding requests are identified. Changes in the master plan submitted 1 February should be documented in this letter summary if the changes were approved.

(7) Summary of runoff potentials in current season (RCS DAEN-CWO-2). (i) The Chief of Engineers and staff require information to respond to inquiries from members of Congress and others regarding runoff potentials. Therefore, the division commander will submit a snowmelt runoff and flood potential letter report covering the snow accumulation and runoff period, beginning generally in February and continuing monthly, until the potential no longer exist. Dispatch of supplemental reports will be determined by the urgencies of situations as they occur. The reports

will be forwarded as soon as hydrologic data are available, but not later than the 10th of the month. For further information on reporting refer to ER 500–1–1, 33 CFR part 203.

(ii) During major drought situations or low-flow conditions, narrative summaries of the situation should be furnished to alert the Chief of Engineers regarding the possibility of serious runoff deficiencies that are likely to call for actions associated with Corps of Engineers reservoirs.

(iii) The reports referred to in paragraphs (m)(7) (i) and (ii) of this section will include general summaries regarding the status of reservoir storage, existing and forecasted at the time of the

reports.

- (8) Reports on project operations during Information flood emergencies. project regulations to be included in reports submitted to the Chief of Engineers during flood emergencies in accordance with ER 500-1-1 include rate of inflow and outflow in CFS, reservoir levels, predicted maximum level and anticipated date, and percent of flood control storage utilized to date. Maximum use should be made of computerized communication facilities in reporting project status to DAEN-CWO-E/CWE-HW in accordance with the requirements of ER 500-1-1, 33 CFR part 203.
- (9) Post-flood summaries of project regulation. Project regulation effects including evaluation of the stage reductions at key stations and estimates of damages prevented by projects will be included in the post flood reports required by ER 500-1-1, 33 CFR part 203.
- (n) Water Control Management Boards. (1) The Columbia River Treaty Permanent Engineering Board was formed in accordance with the Columbia River Treaty with Canada. This board, composed of U.S. and Canadian members, oversees the implementation of the Treaty as carried out by the U.S. and Canadian Entities.
- (2) The Mississippi River Water Control Management Board was established by ER 15-2-13. It consists of the Division Commanders from LMVD, MRD, NCD, ORD, and SWD with the Director of Civil Works serving as chairman. The purposes of the Board are:

(i) To provide oversight and guidance during the development of basin-wide management plans for Mississippi River Basin projects for which the US Army Corps of Engineers has operation/regulation responsibilities.

(ii) To serve as a forum for resolution of water control problems among US Army Corps of Engineers Divisions within the Mississippi River Basin when agreement is otherwise

unobtainable.

(o) List of projects. Projects owned and operated by the Corps of Engineers subject to this regulation are listed with pertinent data in Appendix E. This list will be updated periodically to include Corps projects completed in the future. Federal legislation, Federal regulations and local agreements have given the Corps of Engineers wide responsibilities for operating projects which it does not own. Non-Corps projects subject to this regulation are included in Appendix A of ER 1110-2-241.

APPENDIX A TO §222.5—REFERENCES

- The Federal Power Act, Pub. L. 436-83, approved 10 June 1920, as amended (41 Stat. 1063; 16 U.S.C. 791(a))
- Section 3 of the Flood Control Act approved 22 June 1936, as amended (49 Stat. 1571; 33 U.S.C. 701(c))
- 3. Section 9(b) of Reclamation Project Act of 1939, approved 4 August 1939 (53 Stat. 1187; 43 U.S..C. 485)
- Section 7 of the Flood Control Act approved 22 December 1944 (58 Stat. 890; 33 U.S.C. 709)
- 5. Section 5 of Small Reclamation Projects Act of 6 August 1956, as amended (70 Stat. 1046: 43 U.S.C. 422(e))
- Section 9 of Pub. L. 436–83d Congress (68 Stat. 303)
- 7. The Fish and Wildlife Coordination Act of 1958, Pub. L. 85–624
- 8. The Federal Water Project Recreation Act Uniform Policies, Pub. L. 89-72
- 9. The National Environmental Policy Act of 1969, Pub. L. 91–190
- 10. The Clean Water Act of 1977, Pub. L. 95-217
- 11. Executive Order 12088, Federal Compliance with Pollution Control Standards, 13 October 1978
- 33 CFR 208.10, Local flood protection works; maintenance and operation of structures and facilities (9 FR 9999; 9 FR 10203)
- 13. 33 CFR 208.11, Regulations for use of Storage Allocated for Flood Control or Navigation and/or Project Operation at Reservoirs

subject to Prescription of Rules and Regulations by the Secretary of the Army in the Interest of Flood Control and Navigation (43 FR 47184)

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14. AR 18-1
15. ER 11-2-101
16. ER 15-2-13
17. ER 500-1-1, 33 CFR part 203
18. ER 1110-2-241, 33 CFR part 208
19. ER 1110-2-1400
20. ER 1110-2-1402
21. ER 1110-2-1941
22. ER 1125-2-301
23. ER 1130-2-303
24. ER 1130-2-334
25. ER 1130-2-417
27. ER 1130-2-419
28. EM 1110-2-3600
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APPENDIX B TO \$222.5—SUMMARY OF CORPS OF ENGINEERS RESPONSIBILITIES FOR PRESCRIBING REGULATIONS FOR NON-CORPS RESERVOIR PROJECTS

Summary

1. (a) "Regulations for Use of Storage Allocated for Flood Control or Navigation and/or Project Operation at Reservoirs subject to Prescription of Rules and Regulations by the Secretary of the Army in the Interest of Flood Control and Navigation' (33 CFR 208.11) prescribe the responsibilities and general procedures for regulating reservoir projects capable of regulation for flood control or navigation and the use of storage allocated for such purposes and provided on the basis of flood control and navigation, except projects owned and operated by the Corps of Engineers; the International Boundary and Water Commission, United States and Mexico; and those under the jurisdiction of the International Joint Commission, United States and Canada, and the Columbia River Treaty.

(b) Pertinent information on projects for which regulations are prescribed under Section 7 of the 1944 Flood Control Act, (Pub. L. 78–58 Stat. 890 (33 U.S.C. 709)) the Federal Power Act (41 Stat. 1063 (16 U.S.C. 791(A))) and Section 9 of Pub. L. 436–83d Congress (68 Stat. 303) is published in the FEDERAL REGISTER in accordance with 33 CFR 208.11.

Publication in the FEDERAL REGISTER establishes the fact and the date of a project's regulation plan promulgation.

2. Section 7 of Act of Congress approved 22 December 1944 (58 Stat. 890; 33 U.S.C. 709), reads as follows:

"Hereafter, it shall be the duty of the Secretary of War to prescribe regulations for the use of storage allocated for flood control or navigation at all reservoirs constructed wholly or in part with Federal funds provided on the basis of such purposes, and the

operation of any such project shall be in accordance with such regulations: *Provided*, That this section shall not apply to the Tennessee Valley Authority, except that in case of danger from floods on the Lower Ohio and Mississippi Rivers the Tennessee Valley Authority is directed to regulate the release of water from the Tennessee River into the Ohio River in accordance with such instructions as may be issued by the War Department."

3. Section 9(b) of the Reclamation Project Act of 1939, approved 4 August 1939 (53 Stat. 1189, 43 U.S.C. 485), provides that the Secretary of the Interior may allocate to flood control or navigation as part of the cost of new projects or supplemental works; and that in connection therewith he shall consult with the Chief of Engineers and may perform any necessary investigations under a cooperative agreement with the Secretary of the Army. These projects are subject to 33 CFR 208.11 regulations.

4. Several dams have been constructed by State agencies under provisions of legislative acts wherein the Secretary of the Army is directed to prescribe rules and regulations for project operation in the interest of flood control and navigation. These projects are subject to 33 CFR 208.11 regulations.

5. There are few dams constructed under Emergency Conservation work authority or similar programs, where the Corps of Engineers has performed major repairs or rehabilitation, that are operated and maintained by local agencies which are subject to 33 CFR 208.11 regulations.

6. The Federal Power Act, approved 10 June 1920, as amended (41 Stat. 1063, 16 U.S.C. 791 (A)), established the Federal Power Commission, now Federal Energy Regulatory Commission (FERC), with authority to issue licenses for constructing, operating, and maintaining dams or other project works for the development of navigation, for utilization of water power and for other beneficial public uses in any streams over which Congress has jurisdiction. The Chief of Engineers is called upon for advice and assistance as needed in formulating reservoir regulation requirements somewhat as follows:

a. In response to requests from the FERC, opinions and technical appraisals are furnished by the Corps of Engineers for consideration prior to issuance of licenses by the FERC. Such assistance may be limited to general presentations, or may include relatively detailed proposals for water control plans, depending upon the nature and scope of projects under consideration. The information furnished is subject to such consideration and use as the Chairman, FERC, deems appropriate. This may result in inclusion of simple provisions in licenses without elaboration, or relatively detailed requirements for reservoir regulation schedules and plans.

- b. Some special acts of Congress provide for construction of dams and reservoirs by non-Federal agencies or private firms under licenses issued by the FERC, subject to stipulation that the operation and maintenance of the dams shall be subject to reasonable rules and regulations of the Secretary of the Army in the interest of flood control and navigation. Ordinarily no Federal funds are involved, thus Section 7 of the 1944 Flood Control Act does not apply. However, if issuance of regulations by the Secretary of the Army is required by the authority under which flood control or navigation provisions are included as functions of the specific project or otherwise specified in the FERC license, regulation plans will be prescribed in accordance with 33 CFR 208.11 regulations.
- 7. Projects constructed by the Corps of Engineers for local flood protection purposes are subject to conditions of local cooperation as provided in Section 3 of the Flood Control Act approved 22 June 1936, as amended. One of those conditions is that a responsible local agency will maintain and operate all works after completion in accordance with regulations prescribed by the Secretary of the Army. Most such projects consist mainly of levees and flood walls with appurtenant drainage structures. Regulations for operation and maintenance of these projects has been prescribed by the Secretary of the Army in 33 CFR 208.10. When a reservoir is included in such a project, it may be appropriate to apply 33 CFR 208.10 in establishing regulations for operation, without requiring their publication in the FEDERAL REGISTER. For example, if the reservoir controls a small drainage area, has an uncontrolled flood control outlet with automatic operation or contains less than 12,500 acre-feet of flood control or navigation storage, 33 CFR 208.10 may be suitable. However, 33 CFR 208.11 regulations normally would be applicable in prescribing flood control regulations for the individual reservoir, if the project has a gated flood control outlet by which the local agency can regulate floods.
- 8. Regulation plans for projects owned by the Corps of Engineers are not prescribed in accordance with 33 CFR 208.11. However, regulation plans for projects constructed by the Corps of Engineers and turned over to other agencies or local interests for operation may be prescribed in accordance with 33 CFR 208.11.
- 9. The Small Reclamation Projects Act of 6 August 1956 provides that the Secretary of the Interior may make loans or grants to local agencies for the construction of reclamation projects. Section 5 of the Act provides in part that the contract covering any such grant shall set forth that operation be in accordance with regulations prescribed by the head of the Federal department or agency primarily concerned. Normally, 33 CFR 208.11 is not applicable to these projects.

- APPENDIX C TO \$222.5—PROCEDURES FOR DEVELOPING AND PROCESSING REGU-LATIONS FOR NON-CORPS PROJECTS IN CONFORMANCE WITH 33 CFR 208.11
- 1. Sequence of actions. a. Discussions leading to a clarification of conditions governing allocations of storage capacity to flood control or navigation purposes and project regulation are initiated by District/Division Engineers through contacts with owners and/or operating agencies concerned at regional level
- b. Background information on the project and conditions requiring flood control or navigation services, and other relevant factors, are assembled by the District Engineer and incorporated in a "Preliminary Information Report". The Preliminary Information Report will be submitted to the Division Engineer for review and approval. Normally, the agency having jurisdiction over the particular project is expected to furnish information on project features, the basis for storage allocations and any other available data pertinent to the studies. The Corps of Engineers supplements this information as required.
- c. Studies required to develop reservoir regulation schedules and plans usually will be conducted by Corps of Engineers personnel at District level, except where the project regulation affects flows in more than one district, in which case the studies will be conducted by or under supervision of Division personnel. Assistance as may be available from the project operating agency or others concerned will be solicited.
- d. When necessary agreements are reached at district level, and regulations developed in accordance with 33 CFR 208.11 and EM 1110-2-3600, they will be submitted to the Division Commander for review and approval, with information copies for DAEN-CWE-HW. Usually the regulations include diagrams of operating parameters.
- e. For projects owned by the Bureau of Reclamation, the respective Regional Directors are designated as duly authorized representatives of the Commissioner of Reclamation. By letter of 20 October 1976, the Commissioner delegated responsibilities to the Regional Directors as follows: "Regarding the designated authorization of representatives of the Commissioner of Reclamation in matters relating to the development and processing of Section 7 flood control regulations, we are designating each Regional Director as our duly authorized representative to sign all letters of understanding, water control agreements, water control diagrams, water control release schedules and other documents which may become part of the prescribed regulations.

The Regional Director also will be responsible for obtaining the signature of the designated operating agency on these documents where such is required. Regarding internal coordination within the Bureau of Reclamation, the Regional Directors will obtain the review and approval of this office and at appropriate offices with our Engineering and Research Center, Denver, Colorado, prior to signing water control documents."

- f. In accordance with the delegation cited in paragraph e, 33 CFR 208.11 regulations pertaining to Bureau of Reclamation projects will be processed as follows:
- (1) After regulation documents submitted by District Commanders are reviewed and approved by the Division Commander they are transmitted to the respective Regional Director of the Bureau of Reclamation for concurrence of comment, with a request that tracings of regulation diagrams be signed and returned to the Division Commander.
- (2) If any questions arise at this stage appropriate actions are taken to resolve differences. Otherwise, the duplicate tracings of the regulation diagram are signed by the Division Commander and transmitted to the office of the project owner for filing.
- (3) After full agreement has been reached in steps (1) and (2), the text of proposed regulations is prepared in final form. Copies of any diagrams involved are included for information only.
- (4) A letter announcing completion of action on processing the regulations, with pertinent project data as specified in paragraph 208.11(d)(11) of 33 CFR 208.11, and one copy of the signed tracings of diagrams are forwarded to HQDA (DAEN-CWE-HW) WASH DC 20314 for promulgation and filing. The of-

- fice of the Chief of Engineers will forward the pertinent project data to the Liaison Officer with the Federal Register, requesting publication in the FEDERAL REGISTER.
- g. Regulations developed in accordance with 33 CFR 208.11 and applicable to projects that are not under supervision of the Bureau of Reclamation are processed in substantially the manner described above. All cordination required between the Corps of Engineers and the operating agency will be accomplished at field level.
- h. Upon completion of actions listed above, Division Commanders are responsible for informing the operating agencies at field level that regulations have been promulgated.
- 2. Signature blocks: Some 33 CFR 208.11 regulations contain diagrams of parameter curves that cannot be published in the FEDERAL REGISTER, but are made a part thereof by appropriate reference. Each diagram bears a title block with spaces for the signature of authenticating officials of the Corps of Engineers and the owner/operating agency of the project involved.
- 3. Designation of Corps of Engineers Representatives. Division Commanders are designated representatives of the Chief of Engineers in matters relating to development and processing of 33 CFR 208.11 regulations for eventual promulgation through publication of selected data specified in paragraph (d)(11) §208.11. Division Commanders are designated as the Corps of Engineers signee on all letters of understanding, water control agreements and other documents which may become part of prescribed regulations for projects located in their respective geographic areas, and which are subject to the provisions of 33 CFR 208.11.

APPENDIX D TO §222.5—SAMPLE TABULATION

BARDWELL LAKE, MONTHLY LAKE REPORT, MAY 1975

Day	Elevation 2,400 fe		Storage 2400 A-F	Evap DSF	Pump DSF	Release DSF	Inflow adj. DSF	Rain, inch
1	421.30	421.31	55979	28	2.0	0	84	0.00
2	421.32	421.37	56196	5	2.0	0	117	.00
3	421.43	421.44	56449	23	1.9	0	152	.14
4	421.45	421.47	56558	1	1.8	0	58	.00
5	421.49	421.34	56088	1	2.0	324	50	.00
6	421.20	421.01	54902	14	1.9	632	50	.00
7	420.88	420.89	54473	4	2.0	269	59	.09
8	420.89	420.91	54544	5	2.3	0	44	.00
9	420.90	420.89	54473	11	1.5	0	38	.00
10	420.90	420.90	54509	28	3.0	0	27	.00
11	420.91	421.35	56124	26	1.8	0	824	.00
12	421.54	421.65	57213	31	2.1	0	582	1.61
13	421.70	421.75	57578	29	2.2	0	216	.00
14	421.78	421.76	57614	34	1.9	249	303	.03
15	421.69	421.52	56739	22	1.9	643	225	.57
16	421.39	421.28	55871	39	2.1	535	138	.00
17	421.19	421.09	55188	10	2.2	393	119	.00
18	421.03	421.05	55045	46	2.0	143	60	.00
19	421.04	421.07	55116	17	2.3	0	55	.00

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BARDWELL LAKE, MONTHLY LAKE REPORT, MAY 1975—Continued

Day	Elevation 2,400 fe		Storage 2400 A-F	Evap DSF	Pump DSF	Release DSF	Inflow adj. DSF	Rain, inch
20	421.06	421.30	55943	21	2.1	0	440	.21
21	421.39	421.47	56558	20	2.1	0	332	.97
22	421.50	421.39	56268	42	2.1	247	145	.00
23	421.37	424.91	69726	31	2.0	328	7146	.22
24	425.61	426.15	74825	22	2.0	0	2595	2.38
25	426.15	426.55	76523	18	2.3	0	876	.11
26	426.72	426.80	77598	42	2.1	0	586	.00
27	426.95	427.00	78465	23	2.0	0	462	.00
28	427.14	427.15	79116	31	2.1	0	361	.19
29	427.31	427.70	81528	61	1.9	0	1279	.20
30	427.94	428.05	83082	11	2.0	0	796	1.02
31	428.20	428.22	83837	7	2.1	0	389	.00
Monthly total:								
(DSF)				700	64	3763	18626	7.74
(A–F)			27966	1389	126	7464	36945	

APPENDIX E TO § 222.5—LIST OF PROJECTS

		APPENDIX E 10 § ZZZ.5—LISI OF PROJECTS	5—LIST OF PR	COJECTS					
		·		Storage	Elev limits feet M.S.I.	ts feet	Area in acres	acres	
Project name ¹	State/county	Stream 1	pose 5	1,000 AF	Upper	Lower	Upper	Lower	Auth legis ³
		Lower Mississippi Valley Division	oi Valley Divisior						
Alligator—Catfish FG	MS Issaquena	Little Sunflower	ш	0.0	0.0	0.0	0	0	FCA Jun 36.
Arkabutla Lk	MS Desoto	Coldwater	ш	525.0	238.3	209.3	33,400	2,100	FCA Jun 36.
Ascalmore—Tippo FG & CS	MS Tallahatchie	Ascalmore	LL I	0.0	136.0	118.0	0	0	
Bienvenue FG	LA St Bernard	Bayou Bienvenue	L.	0.0	2.0	2.0	0	0	
Big Lk Ditch #81 CS	AR Mississippi	Ditch 81 Extension	ပ (0.0	0.0	230.0	0 (0	
Big Lk Div CS	AR Mississippi	Little R	O (0.0	0.0	230.0	0	0	
Big Lk North End CS	AK Mississippi	Display	<u>ن</u> د	0.0	0.0	230.0	0	0	FCA Oct 65.
Birds Point—New Madrid Div	MO New Madrid	Mississippi) ш	0.0	330.5	328.5	131,000	71,000	
Floodway.									
Bodcau Lk	LA Bossier	Bayou Bodcau	LL L	35.3	199.5	157.0	21,000	110	PL 74–839.
	LA St Charles	MISSISSIPPI K	L _	0.0	0.42	40.0	0	0	
DOWING LOCK	LA Vermillori	J. W.W.	_ 2	0.00	7 0,	7.004		000	PL /3=14. FO A Oct 6F
Caido LK	LA Caddo	Ohio	Ζ ц	0.02	310.5	200.0	000,80	70,600	
Calcasieu SW Barrier & Lock	LA Calcasieu	Calcasieu R	_	0.0	1.2	1.2	0	0	RHA Oct 62.
			•		!	!)		PL 79–525.
Calion L&D	AR Union	Ouachita	z	0.0	77.0	77.0	12,200	12,200	_
Calument FG East & West	LA St Mary	Wax Lake Outlet Bayou	N.	0.0	3.0	3.0	0	0	FCA Jun 36.
	:	Teche.		1				!	
Cannon Re-reg	MO Ralls	Salt R	PCA	5.8	528.0	521.0	1,020	460	HD 507.
Carlyle Lk	IL Clinton	Kaskaskia R	NMCAR	0.669	462.5	445.0	50,440	24,580	
Catahoula Lk CS	LA LaSalle	Catahoula Div		118.0	34.0	27.0	25.000	96	RHA 1960.
Catfish Point CS	LA Cameron	Mermentau R	Z.	0.0	1.2	1.2	0	0	
Charenton FG	LA St Mary	Grand Lk	N	0.0	0.0	0.0	0	0	RHA Jul 46, FCA May 28.
Cocodrie FG FG	LA Concorida	Bayou Cocodrie	L	0.0	46.0	13.0	0	0	FCA Aug 41.
Collins Cr	MS Warren	Collins Cr	LL :	0.0	84.0	67.0	0	0	_
Columbia L&D	LA Caldwell	Ouachita	Z I	0.0	52.0	52.0	0/0//	0,0,7	
Connerly Co.	AR Chicot	Connerly Bayou	۲ ر ج	0.0	10.0	100.0	0	0	FCA Aug 68.
Courtableau Drainage Co	LA St Landry	Bayou Courtableau	L Ū	0.0	0.0	0.0	0 0	0 0	FCA May 28, PL 391-70.
DeGray I K	AR Desoto	Caddo	FNPMRA	0.0	423.0	345.0	23 800	6 400	
DeGrav Rered. St	AR Clark	Caddo	NMRA	3.6	221.0	209.0	430	06	
Ditch Bayou Dam	AR Chicot	Ditch Bayou	FCR	0.0	106.0	93.0	0	0	
Drainage Dist #17 PS	AR Mississippi	Ditch 71	ш	3.0	236.0	228.0	4,100	0	_
Drinkwater PS	MO Mississippi	Drinkwater Sewer	L	20.6	315.0	307.0	4,000	200	
Dupre FG	LA St Bernard	Bayou Dupre	ш	0.0	2.0	2.0	0	0	
East St Louis PS	IL St. Clair	IDD	ш.	0.0	0.0	0.0	0	0	FC Act 36.
Empire FG Hurr Prot & Lock	LA Plaque mines	Mississippi R	<u> </u>	0.0	200	200	0 00	0 0	PL 874-87.
Enid LK	MS Yalobusha	Yacona	_	0.000	768.0	230.0	28,000	6,1001	

APPENDIX E TO §222.5—LIST OF PROJECTS—Continued

			Project pur-	Storage	Elev limits feet	its feet	Area in acres	acres	
rioject name	State/county	Ollegill	pose ²	AF.	Upper	Lower	Upper	Lower	Sugar Inde
Felsenthal L&D Finley Street PS Finley Street PS Freshwater Lock	AR UnionTN Dyer	Ouachita	Z L _ 2	32.5 0.5 0.0	70.0 269.0 0.0	65.0 257.0 0.0	46,500 94 0	17,500 22 0	RHA 1950. FCA 1948, PL 85–500. PL 86–645.
Graham Burke PS	AR Phillips	White	ጀևևև	2,805.0 1,357.4 2,863.0	174.8 231.0 207.2	140.0 193.0 165.0	149,000 64,600 18,500	2,500 9,800 1,400	FCA May 28, PL 85–500. FCA Jun 36. FCA May 50.
Jonesville L&D	LA Catahoula	Black	zzz	0.0	34.0 368.0 40.0	34.0 363.0 40.0	7,120 1,300 0	7,120 1,200 0	RHA 1950. SD 44. PL 90-483.
L&D 2 L&D 3 L&D 4	LA Rapides	Red R Red R	zzz	0.0	71.2 95.0 120.0	64.0 91.5 119.6	000	000	PL 90-483. PL 90-483. PL 90-483.
L&D 5 L&D 24	LA Red RMO Pike	Red RMississippi R	zz	29.7	145.0	140.2	13,000	12,000	PL 90–483. R&H Act, Jul 3/30.
L&D 25	MO Lincoln	Mississippi R	z	49.7	434.0	429.7	18,000	16,600	R&H Act, Aug 30/35. R&H Act, Jul 3/30. B&H Act 8/30/35
L&D 26	IL Madison	Mississippi R	z	107.1	419.0	414.0	30,000	27,700	R&H Act, 6/30/33. R&H Act, Jul 3/30. R&H Act, 8/30/1935
Larose to Golden Meadow Hurr Prot	LA LaFourche	Bayou LaFourche	LL.	0.0	3.0	3.0	0	0	FCA Oct 65, PL 89-298.
Little Sun flower CS Lk #9 Culvert & PS Lk Chicot PS	MS IssaquenaKY FultonAR Chicot	Lit. Sunflower	FFF	0.0	85.0 286.0 118.2	60.0 282.0 90.0	000	000	FCA 1941. FCA Oct 65. FCA Aug 68.
Lk Greeson	AR Pike	Little Missouri	<u>.</u> ۴	0.0	563.0	436.9	08,800	2,500	FCA 1941.
Lk Ouachita	AR Garland	Ouachita	<u>.</u>	0.0 0.0 894.0	592.0 32.5 638.0	480.0 32.5 606.0	0 0 38,400	18,600	FCA Dec 44. FCA May 50. HD 507.
Marked Tree Siphon	AR Poinsett	St. Francis	PMCAR F FC	957.0 0.0 0.0 30.0	606.0 229.0 59.5 76.9	567.2 198.3 49.0 70.0 5.0	18,600 0 0 4,350	5,900 0 2,860 0	FCA Jun 30. FCA May 28. FCA Oct 65. PL 83–780.
Aux. Old River Lock	LA W FelicianaLA Port Allen	Old R GIWW	ZZU	0.0	65.4 46.1	10.0	000	000	FCA Sep 54, PL 780–83. RHA Jul 46.
Rapides-Boeuf Div Canal CS	LA Rapides	Bayou Rapides	L IL IL	0.0	66.0	62.2 410.0	24,800	18,900	FC Act 82. FCA Aug 41, GD 359–77. HD 541.
Sardis Lk	MS PanolaLA Vermilion	Little Sunflower	Δπ _	160.0 1,569.9 0.0	405.0 281.4 1.2	391.3 236.0 1.2	18,900 58,500 0		FCA Jun 36. FCA Aug 41.

HD 232. FCA May 28. FCA Oct 65. FCA J941. FCA Jun 36. FCA Jun 36. FCA Oct 65. FCA Oct 65. FCA Jun 46. FCA Jun 36. FCA Jun 36. FCA Jun 36.				·		الد و			<u>.</u> .				3, PL 78–534.					<i>-</i> : • •
HD 232. FCA May 28. FCA Oct 65. FCA 1941. FCA Jun 36. FCA Jun 36. FCA Jun 36. FCA Jun 46. FCA Jun 46. FCA Jun 36. FCA Act 38. FCA Act 38.		PL 90-483	PL 78-534.	SD 247-78. PL 90-483.		PL 85-500. HD 396-84			HD 396–84. PL 78–534.	PL 80-858.	PL 81-516.		HD 426-76, PI 87-874		PL 77-228.	HD 655-76		1 HD 396–84. 44 PL 77–228. 30 HD 655–76.
3,000 3,000 2,240 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		109	000'09	57,000	0 1	315	1,732	1,780	0 0	2 2	1,412	852	0 2	0	36	230	,	44 08
25,300 11,100 0 0 0 0 7,800 9,300 23,200 0 0 0		718	61,000	60,000	722	315	5,131	3,640	1,780	17	4,742	2,637	852	7,006	198	98 0		230 214 44
599.7 573.0 3.5 210.0 60.0 60.0 142.0 235.0 142.0 384.7 88.5 296.0 69.0		5,558.0	1,422.0	1,420.0	760.0	1,307.4	2,754.8	1,284.0	1,250.0	3,526.0	5,432.0	5,550.0	5,504.0	820.0	3,585.0	3,548.0		3,875.0
626.5 599.7 29.7 0.0 68.5 110.0 37.0 252.0 37.0 252.0 384.7 111.6 302.0 0.0		5,635.5	1,423.0	1,422.0	802.0	1,322.5	2,777.0	1,311.0	1,284.0	3,545.0	5,500.0	5,598.0	5,550.0	875.5	3,651.4	3,585.0		3,936.0
474.0 180.0 0.0 0.0 0.0 0.0 0.0 23.4 96.1 613.2 0.0 0.0 0.0		28.8	61.0	117.0	10.8	3.0	72.7	71.6	26.0	0.1	204.7	80.0	14.0	129.2	6.7	6.5		7.7
~ X X O ~ ~ ~ ~ <u>A</u> ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	Missouri River Division	FCR	L	FNPIMCAR F	FRC	FCR	FMCR	ÉLL	FCR	LL I	T III	Ž IL	<u></u> ደ	FMCAR	L I	Ϋ́T		7 T T
Kaskaskia R GIWW GIWW Dannick Floodway Steele Bayou Tchula Lk Atchafalaya R Lithe R Atchafalaya R Bayou Corcodrie Lithe R Wasp k-Bear Gr St Francis R Mississippi DD Yazoo Yazoo	Missouri Ri	Bear Cr	Missouri R	Little Blue R		Olive Br. salt Creek	No Fk Grand River	Oak Creek trib. Salt	Creek. Bull Hook Cr Scott Cou-	lee. Deadman's Gulch	S Platte	Cherry Cr	Wakariisa R		Cold Brook	Holmes Cr Trib to Salt	O.	Cottonwood Springs Cr
IL Shelby LA Iberville AR Poinsett MS Issaquena MS Humphreys LA St Mary LA Cocordia MO Dunklin LA Caddo MO Wayne MS Humphreys KY Futton IL Madison MS Yazzoo MS Yazzoo		CO Jefferson	SD Lyman Buffalo Hughes.	MO Jackson	L	NE Lancaster	ND Bowman	NE Lancaster	MT Hill	SD Pennington	CO Douglas	CO Araphahoe	KS Douglas	3	SD Fall River	NF Lancaster		SD Fall River
Shelbyville LK Sorrell Lock St Francis Lk CS Steele Bayou CS Tchula Lk Lower FG Tchula Lk Upper FG Tensas-Cocodrie PS Treasure Island PS Treasure Island PS Wallace Lk Wappapello Lk Wappapello Lk West Hickman PS Wood R PS Yazoo City PS		Bear Creek Dam & Res	Big Bend Dam & Lk Sharpe	Blue Springs Dam & Lk		Blue Stem Lake & Dam 4	Bowman-Haley Dam & Res	Branched Oak Lk & Dam 18	Bull Hook Dam	Cedar Canyon Dam	Chattield Dam & Res	Cherry Cr Dam & Res	Clinton Dam & Lk	5	Cold Brook Dam & Res	Conestoga Lake & Dam 12	b	Cottonwood Springs Dam & Res

APPENDIX E TO § 222.5—LIST OF PROJECTS—Continued

Č		7	Project pur-	Storage	Elev limits feet M.S.L.	its feet	Area in acres	acres	0 -1 -1 -1 - V
Project name	State/county	oream	pose ²	AF AF	Upper	Lower	Upper	Lower	Aum legis
Fort Peck Dam & Res	MT Valley, Mc Cone Garfield	Missouri R	Ħ	0.779	2,250.0	2,246.0	249,000	240,000	PL 73–409.
			FNPIMCAR	13,649.0	2,246.0	2,160.0	240,000	92,000	PL 75–529, HD 238–73.
Fort Randall Dam, Lk Francis Case	SD Gredory Charles	Missouri R	ш	985.0	1,375.0	1,365.0	102,000	95,000	PL 78–534.
			FNPIMCAR	3,021.0	1,365.0	1,320.0	95,000	41,000	SD 247-78.
Garrison Dam, Lk Sakakawea	ND Mercer McLean	Missouri R	ш	1,494.0	1,854.0	1,850.0	382,000	365,000	PL 78-534.
			FNPIMCAR	17,440.0	1,850.0	1,775.0	365,000	129,000	
Gavins Point Dam, Lewis & Clark Lk	SD Yankton	Missouri R	L [61.0	1,210.0	1,208.0	32,000	29,000	
7 - moderation 17	NE NIOX	The Banillian Or	FINE	20.0	1,400.0	1,404.5	000,87	20,000	SU 24/=/8.
Germ Callingham EN, Dam 11	NE Douglas		FRCA	3.9	1.121.0	1,085.0	392	385	FL 301483. HD 349-90.
Harlan County Lk	NE Harlan	Republican R	L	498.0	1,973.5	1,946.0	23,064	13,249	PL 77-228.
			Œ	342.6	1,946.0	1,875.0	13,249	0	
Harry S Truman Dam & Res	MO Benton	Osage R	7 0 0 0	4,005.9	739.6	706.0	209,300	55,600	PL 83-780.
			5	1,503.4	0.007	0.000	000,00	>	HD 548-61, FL 6/-6/4.
Hillsdale Lk	KS Miami	Big Bull Cr	IL I	83.6	931.0	917.0	7,410	4,580	PL 83–780.
Holmes Park I k & Dam 17	NF I ancaster	Antelone Cr Trib to Salt	T NWCAR	5.07	1 266.0	1 242 4	4,580	0 0	HD 642-81. PI 85-500
בייייייייייייייייייייייייייייייייייייי	במוסמסום	Cr.	-	3	2.00	1.7	2	2	
			FCR	0.8	1,242.4	1,218.0	100	က	HD 396-84.
Kanopolis Lk	KS Ellsworth	Smoky Hill R	டம்	370.0	1,508.0	1,463.0	13,999	3,560	PL 75-761.
Kellv Road Dam	CO Araphoe	Westerly Cr	<u> </u>	0.00	5.362.0	5.342.0	38	0 0	PL 80-858. PL 84-99.
Long Branch Lk	MO Randolph	Little East Fk Chariton R	. LL	30.4	801.0	791.1	3,670	2,429	
•			FCAR	34.6	791.0	751.1	2,429	0	HD 238-89.
Longview Lk	MO Jackson	Little Blue R	L I	24.8	0.606	891.0	1,960	930	PL 90-483.
1 (((((((((((((((((((0 0 0	Months of the control	FCAR	22.1	891.0	810.0	930	0 00	HD 169–90.
Welvell LA	No Coagle	ividiais des Cygnes n	FNMCAR	154.4	1.036.0	0.050,	6.928	0,320	PL 75-761. HD 549-81.
Milford Lk	KS Geary	Republican R	ш	7.96.7	1,176.2	1,144.4	27,255	17,270	PL 83-780.
			FCA	388.8	1,144.4	1,080.0	15,709	0	HD 642-81, PL 75-761.
Oahe Dam & Lk	ND 4 Counties	Missouri R	ட	1,097.0	1,620.0	1,617.0	373,000	329,000	PL 78-534.
	SD 8 Counties	() ()	FNPIMCAR	16,789.0	1,617.0	1,540.0	359,000	117,000	SD 247–78.
Olive Cr Lk & Dam 2	NE Lancaster	Olive Br of Salt Cr	T I	4.0	1,350.0	1,335.0	355	174	HD 396–84.
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	L L		۲ ۲ ۲	ς: r	1,335.0	1,314.0	4 7 7	4 1	PL 85-500.
Papio Dam Site #18 & LK	NE Douglas	Boxelder or Papio or	FCAR	3.4	1,128.2	1,110.0	282	607	PL 90-483. HD 349-90
Papio Dam Site #20 & Lk	NE Sarby	Trib South Branch Papio	<u></u>	6.1	1,113.1	1,096.0	493	246	PL 90-483.
	:		FCAR	2.7	1,096.0	1,069.0	246	10	HD 349-90.
Pawnee Lk & Dam 14	NE Lancaster	No. Middle Cr of Salt Cr	LE	21.0	1,263.5	1,244.3	1,470	728	PL 85-500.
i.	, , , , , , , , , , , , , , , , , , ,		FCR	8.5	1,244.3	1,206.0	728	10001	HD 396–84.
Perry Lk	KS Jefferson	Delaware R	ш	521.9	920.6	891.5	25,342	12,2021	12,202 PL 83-780.

APPENDIX E TO § 222.5—LIST OF PROJECTS—Continued

- 8-1	مانوانان الا	Mississippi	Z	101	603 1	602.0	21 100	20,000	DI 71_520	
L&D 12	IA Jackson	Mississippi R	z	12.2	592.1	591.0	13.000	12.400	PL 71–520.	
L&D 13	IL Whiteside	Mississippi R	z	24.2	583.1	582.0	30,000	28,500	PL 71-520.	
L&D 14	⊴	Mississippi R	z	9.0	572.1	571.0	10,500	9,980	PL 71-520.	
L&D 15	┙	Mississippi R	z	5.5	561.1	259.0	3,725	3,540	PL 71-520.	
L&D 16		Mississippi R	z	12.1	545.1	544.0	13,000	12,400	PL 71-520.	
L&D 17	=	Mississippi R	z	7.5	537.1	536.0	7,580	7,200	PL 71-520.	
L&D 18		Mississippi R	z	11.0	529.1	528.0	13,300	12,600	PL 71-520.	
L&D 19		Mississippi R	z	22.0	518.2	517.2	33,500	31,800	PL 71-520.	
L&D 20		Mississippi R	z	2.8	481.5	476.5	2,960	7,550	PL 71-520.	
L&D 21		Mississippi R	z	8.6	470.1	469.6	9,390	8,910	PL 71-520.	
L&D 22		Mississippi R	z	8.4	459.6	459.1	8,660	8,230	PL 71-520.	
Lac qui Parle Dam & Res	MN Chippewa Swift	Minnesota R	5	119.3	941.1	931.2	13,500	6,400	FCA of 22 Jun 36.	
Lagrange L&D	IL Brown	Illinois R	z	0.0	429.0	429.0	10,500	10,500	PL 73-184.	
Leech Lake Dam & Res	MN Cass	Leech R	z	300.2	1,295.7	1,293.2	139,000	107,200	RHA of 1882 1895.	
Little Kaukauna L&D	WI Brown	Fox R	z	3.6	601.0	592.8	447	45.0	RHA of 1882 1885.	
Little Chute L&D	WI Outagamie	Fox R	z	4.0	694.2	6889	74	29	RHA of 1882 1885.	
Lockport Lock	IL Will	Chicago San Ship Canal	FNP	2.7	279.0	577.5	1,850	1,800	RHA 1930.	
Lower Appleton L&D	WI Outagamie	Fox R	z	0.2	710.9	706.3	43	40	RHA of 1882 1895.	
Marseilles Lk & Dam	IL LaSalle	Illinois R	z	0.7	483.0	482.8	1,400	1,320	PL 71-126.	
Marsh Lake Dam & Res	MN Swift, Lacqui, Parle	Minnesota R	<u></u>	23.9	941.1		8,650	2,120	FCA Jun 36.	
Menasha Dam Lk Winnebago	WI Winnebago	Fox R	Z.	452.0	746.8	743.5	181,120	168,500		
Mount Morris Dam	NY Livingston	Genesee R	ш	337.4	0.097		3,300	0	PL 74-738.	
O'Brien L&D	IL Cook	Calumet	z	0.3	581.9	578.2	20	20	RHA of 1946.	
Peoria L&D	IL Peoria	Illinois R	z	0.0	440.0	440.0	27,800	27,800	PL 73-184.	
Pine Dam & Res	MN Crow Wing	Pine R	z	40.4	1,230.3	1,227.3	13,900	13,000	RHA of 1899.	
Pokegama Dam & Res	MN Itasca	Mississippi R	z	52.4	1,274.4	1,270.3	13,700	12,000	RHA of 1899.	
Rapid Croche L&D	WI Outagamie	Fox R	z	3.4	608.5	602.1	268	0	RHA 1885.	
Red Lake Dam & Res	MN Clearwater	Red Lake R	ΕĀ	1,810.0	1,174.0	1,173.5	288,800	287,300	FCA Dec 44.	
Red Rock Dam & Res	IA Marion	Des Monies R	LL.	1,670.0	780.0	728.0	65,400	8,000	PL 75-761.	
			~	72.0	728.0	0.069	8,000	0	PL 75-761.	
Reservation Control Res	MN Traverse		5	58.8	981.0	976.0	12,400	10,950	FCA 1936.	
	SD Roberts.									
Sandy Lake Dam & Res	MN Aitkin	Sandy R	Z	37.5	1,218.3	1,214.3	10,600	8,200	RHA of 1899.	
Saylorville Dam & Res	IA Polk	Des Moines R	ш	586.0	890.0	836.0	16,700	2,950		
:			a :	90.0	836.0	810.0	5,950	0 1	FCA.	
St Anthony Falls Lwr L&D	MIN Hennepin	Mississippi K	zi	0. i	750.0	750.0	200	200	KHA of 1937 1945.	
St Anthony Falls Upr L&D	MN Hennepin	Mississippi K	zi	17.4	801.0	0.667	8,800	8,600	KHA of 1937 1945.	
Starved Rock L&D	IL Lasalle	Illinois K	zi	1.0	459.0	458.0	1,155	1,020	PL 69-100.	
Upper Appleton L&D	WI Outagamie	Fox K	zi	4.7	738.7	735.4	1,171	1,040	KHA of 1882 1885.	
Upper Kaukauna L&D	wi Outagamie	FOX K	zí	- 1	626.8	652.8	134	115	KHA Of 1882 1885.	
White Rock Dam & Res	MN Traverse	Bois De Souix	<u>ب</u>	78.6	981.0	972.0	10,500	4,000	FCA 1936.	
Winnibigoshish Dam & Res	SD Roberts. MN Cass Itasca	Mississippi R	z	98.7	1,300.9	1,296.9	98,700	62,000	RHA of 1899.	
		New Engla	England Division							
Ball Morntain I k	VT Windham	West R	ш	52.4	1 017 0	830.5	810	20	PI 78-534 83-780	
Barre Falls Dam	MA Worcester	Ware R	. ш	24.0	807.0	761.0	1,400			
Birch Hill Dam	MA Worcester	Millers R	ш	49.9	852.0	815.0	3,200	0	PL 75-761.	

Continued
PROJECTS-
-LIST OF
5 \$ 222.5
APPENDIX E TO

Auth legis 3)	PL 86–45. PL 75–111. PL 77–228. PL 86–645.	PL 86–645. PL 77–228.	PL 75–111. PL 75–761. PL 75–111.	PL 86–645. PL 77–228.	PL 86–645. PL 75–761.	PL 75-761. PL 85-500.	PL 77–228.	PL 85–500. PI 75–761	PL 75–761.	PL 86-645. PI 83-780	PL 86–645.	PL 75–761. PI 78–534	PL 78–534, PL 83–780	PL 75-761. PI 74-738	PL 78–534.	PL 86–645. PL 77–228.		PL 81–516. FCA 1962, PL 87–874,	PL 87-874. HD 544, PL 75-761, Pl	8/-8/4. HD 531. PL 81-516.
acres	Lower	21 F 200 P 750 P	360	165 130 440			0 275			100	- c		260				230 23		86,000 F	86	940 H
Area in acres	Upper	190 3,280 530 1,185	158	2,900	266	3.700	960	1,880	1100	1,200	97.4	0	970	735	1,130	1,025	1,250		95,000	130	975
iits feet 3.L	Lower	437.0 515.0 492.5 708.0	694.0	911.0	460.0	380.0	480.0	205.5	0.0	467.0	500.0	0.0	500.0	478.0	636.0	234.0	305.0 525.0		2,049.7	1,182.0	1,350.0
Elev limits feet M.S.L.	Upper	520.0 566.0 524.0 761.0	757.0 653.0	946.0 418.0 389.0	484.0	364.0	610.0	257.0	0.0	545.5	576.0	0.0	550.0	553.0	668.0	264.0	342.5		2,062.5	1,206.0	1,357.0
Storage 1,000	AF	8.5 46.0 11.3 50.2	3.7	12.8 91.5 150.6	3.9	6.9	49.0	49.2	0.0	50.0	2.4	0.0	31.7	32.9	20.5	12.4	25.6		1,155.0 75.2	3.5	6.5
Project pur-	pose	L L L L	шш	шшш	шш	шш	шш	L	шш	. IL	டம	. 止	டட	. LL I	டம	_ 1_	ட்ட	ic Division	FNP	۵	E Z
Stream 1		Branch Brook	Farmington K. Conant Brook	Nubanusit Brook Piscataquog R	Hancock Brook	Hop Brook	Westfield RMiddle Br. Westfield R	Natchaug R	Offallollechee R	Black R	Northfield Br		Ashuelot R	West R	Cast Br Tully R	West R	Quinebaug R	North Pacific Division	Pend Oreille R	N Santiam R	Blue R
State/county	•	CT Litchfield	MA Beksnire	ter. NH Hillsboro NH Hillsboro, Merrimack NH Belknao, Merrimack	CT LitchfieldMA Worcester	CT New Haven	MA Hampshire	shire. CT Tolland	MA Bristol	VT Windsor	CT LitchfieldNH Cheshire	CT Fairfield	NH CheshireCT Litchfield	VT Windham	MA Worcester	MA Worcester	CT Windham		ID Bonner OR Jackson	OR Marion, Linn	OR Lane
Project name 1		Black Rock Lk Backwater Dam Buffumville Lk Colebrook River Lk	Conant Brook Dam	Edward MacDowell Lk	Hancock Brook LkHodges Village Dam	Hop Brook LkHopkinton Lk	Knightville Dam	Mansfield Hollow Lk	New Bedford-Fairhaven Hurr Barrier	North Springfield Lk	Northfield Br Lk	Stamford Hurr Barrier	Surry Mountain LkThomaston Dam	Townshend Lk	Tully LK	West Hill Dam	West Thomspon		Albeni Falls Dam, Lk Pend, Oreille Applegate Lk	Big Cliff Dam	Blue River Lk

Bonneville L&D Lk	WA Skamania	Columbia R	A u	138.0	77.0	70.0	20,800	19,850	RHA 1935. PI 90-483
Chief Iosenh Dam Brifus Woods I k	WA Douglas Okanogan	Columbia B	. 0	102.3	956.7	0.000	0,400	000	HD 693 PI 79_525
Cottage Grove Lk	OR Lane	Coast Fk, Willamete R	. ш	29.8	791.0	750.0	1,155	295	
Cougar Lk	OR Lane	South Fk	ш	11.3	1,699.0	1,690.0	1,280	1,235	HD 531.
			FNPI	143.9	1,690.0	1,532.0	1,235	635	PL 81-516.
			_	6.6	1,532.0	1,516.0	635	602	PL 83-870.
Detroit Lk	OR Marion	North Santiam	I I	19.1	1,569.0	1,563.0	3,490	3,455	HD 544, PL 75–761.
				40.3	1,450.0	1,425.0	1,725	1,415	
Dexter Dam	OR Lane	Middle Fk, Willamette R	FNPI	4.8	695.0	0.069	066	940	HD 544, PL 75-761.
Dorena Lk	OR Lane	Cow R	ш	5.5	835.0	832.0	1,885	1,815	HD 544.
				65.0	832.0	770.5	1,815	250	PL 75–761.
Dworshak Dam and Res	ID Clearwater	North Fk, Clearwater R	d L	2,016.0	1,600.0	1,445.0	17,090	9,050	HD 403, PL 87–874.
rail or dam and Lk	OR Lane	rall Cr	- L	7.7	834.0	228.0	1,865	09/,1	HD 531. PI 81 516
Fern Ridge Lk	OR Lane	Long Tom B	<u> </u>	15.7	375.1	373.5	10,305	9.340	FE 81-318 HD 544
b		0	- Z	93.9	373.5	353.0	9,340	1,515	PL 75-761
Foster Lake	OR Linn	South Santiam R	ш	4.9	641.0	637.0	1,260	1,195	HD 544
	:		FNPI	24.9	637.0	613.0	1,195	892	PL 86-645
Green Peter Lk	OR Linn	Middle Fk, Santiam R	į L į	18.3	1,015.0	1,010.0	3,705	3,605	HD 531.
			I L	249.9	1,010.0	992.0	3,605	2,072	PL 81-516, PL 83-780.
TIIIS Creek LK	OR Lane	Middle FK, Willamette K	I I	1946	1,543.0	1,541.0	2,850	2,710	HD 531. PI 81–516
Howard Hanson Dam	WA Kina	Green R		80.0	1,206.0	1,141.0	1,750	763	HD 531.
	D.		FA	25.6	1,141.0	1,040.0	763	13	PL 81-516.
Ice Harbor Dam Lk Sacajawea	WA Walla, Walla, Frank-	Snake R	AN D	24.9	440.0	437.0	8,370	8,210	HD 704, PL 79–14.
John Day Dam Lk Umatilla	OR Sherman	Columbia R	ш	158.0	268.0	265.0	55,000	52,000	HD 531.
`			FNP	150.0	265.0	262.0	52,000	49,000	PL 81–516.
2				192.0	262.0	257.0	49,000	42,000	
Libby Dam Lk Koocanusa	MI Lincoln	Kootenal R	1 8	4,979.5	2,459.0	2,287.0	46,365	14,391	HD 531, PL 81–516.
Lookout Point Lk	OR Lane	Middle Fk. Willamette R		12.2	825.0	819.0	2,090	1,860	HD 544.
			FNPI	324.2	926.0	825.0	4,255	2,090	
Lost Creek Lk	OR Jackson	Rogue R	FPIR	315.0	1,872.0	1,751.0	3,430	1,800	HD 566, PL 87-874.
Lower Granite L&D	WA Garfield, Whitman	Snake R	IAN	43.6	738.0	733.0	8,900	8,540	HD 704, PL 79-14.
Lucky Peak Dam and Lk	ID Ada	Boise R	L i	13.9	3,060.0	3,055.0	2,817	2,745	PL 79–526.
				797.4	3,055.0	2,905.0	7,817	802	
Lwr Monumental L&D Lk HG West	WA Walla, Walla, Frank-	Snake R	d Z	20.0	540.0	537.0	6,700	6,550	HD 704, PL 79–14.
McNary L&D, Dam Lk Wallula	WA Benton	Columbia R	A.N.	185.0	340.0	335.0	38,800	36,000	HD 704, PL 79-14.
:	OR Umatilla		:						
Mill Creek Dam Lk	WA Walla, Walla	Mill Cr	L	7.5	1,265.0	1,205.0	225	23	HD 578, PL 75-761.
Mud Mountain Dam	WA King, Pierce	White R	ш.	106.3	1,215.0	895.0	963	0	PL 74-738.
The Dalles L&D Lk Celilo	WA Klickitat	Columbia R	<u>ــــ</u>	52.5	160.0	155.0	11,200	10,350	HD 531, PL 81-516.
Willow Creek Lk	OR Morrow WA Gravs, Harbor	Willow Cr Wynoochee R	EMCA	11.6	2,113.5	2,047.0	269	96	PL 89–298. HD 601. PL 93–251.

APPENDIX E TO § 222.5—LIST OF PROJECTS—Continued

-	Aum legis		RHA 1935. RHA 1935. RHA 1912.		PL 74–738.	PW 1933. PL 79–525.					PL 75–761. PL 87–874. PL 75–761.
acres	Lower		000	0000	12,080 1,900 3,387	5, 103 1,540 1,250 57,920 45,210	10,000	420 420 460 6	3,590 2,200 2,040	1,800 2,430 1,230 550	965 553 2,120 2,060 1,100 2,830 700
Area in acres	Upper		000	0000	21,180 12,080 4,852	3,367 2,460 1,540 93,430 57,920	45,210 20,150 10,000	6,150 0 1,847 725	5,500 3,590 9,180	2,040 6,500 5,260 3,610 1,230	1,902 965 2,720 3,910 2,060 6,110 2,830
ts feet	Lower		710.0 721.0 734.5	745.0 756.8 769.0 782.1	1,328.0	928.0 928.0 922.5 359.0 354.0	233.0 552.0 525.0	948.0 0.0 592.0 583.5	1,024.7 1,016.5 1,410.0	1,406.0 895.0 713.0 782.0	789.0 1,012.0 661.0 640.0 849.0 800.0
Elev limits feet	Upper		721.0 734.5 745.0	756.8 769.0 782.1 800.0	1,365.0	941.0 928.0 375.0 359.0	354.0 590.0 552.0	976.5 0.0 614.5 592.0	1,032.0 1,024.7 1,520.0	1,410.0 962.0 748.0 840.0	825.0 789.0 1,023.0 690.0 661.0 883.0 849.0
Storage	AF 000		0.0	0.0.0.0	607.0 607.0 549.0 53.1	7.9.2 26.1 7.6 1,213.0 259.0	610.0 558.8 190.3	69.0 0.0 5.0 0.0 0.0	38.3 56.6 592.6	7.5 149.6 128.4 135.8	51.5 10.2 26.8 83.5 33.1 140.2 88.7
Project pur-	pose 2	Ohio River Division	ZZZ	zzzz:	F F F F F F F F F F F F F F F F F F F	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Z IL IL I	T L L R L R L R L R L R L R L R L R L R	N F F MCAR	T T T T T T T T T T T T T T T T T T T	F F F F A F MAR
i	offeam	Ohio Rive	Allegheny R	Allegheny R	Allegheny R	Indian Fk Cr	Barren R	Sugar Cr	Ohio K		L Kanawha R
	State/county		PA AlleghenyPA AlleghenyPA AlleghenyPA Allegheny Westmore-	land. PA Armstrong PA Armstrong PA Armstrong PA Armstrong	PA MarrenOH Delaware	OH Tuscarawas Ky Lyon, Livgst	KY Allen, Barren	OH Tuscarawas	WV Wood	OH Stark, Tuscarawas IN Franklin KY Leslie	WV Braxton
	Project name		Allegheny L&D 2 Allegheny L&D 3 Allegheny L&D 4	Allegheny L&D 5 Allegheny L&D 6 Allegheny L&D 7 Allegheny L&D 7 Allegheny L&D 8 Allegheny L&D 8	Allegheny Res Kinzua Dam	Atwood LkBarkley	Barren River Lk	Beach City Lk	Belleville L&D	Boivar Dam	Burnsville Lk

Cagles Mill Lk	IN PutmanKY Hancock	Mill Cr Ohio R	цZ	201.0	704.0	636.0 358.0	4,840	1,400	PL 75–761. RHA 1909
Carr Fk Lk	KY Knott	Carr Cr	LL L	25.1	1,055.0	1027.0	1,120	710	PL 87–874.
Cave Run Lk	KY Rowan	Licking R	۲ (۲ (الد أ	391.5	765.0	730.0	14,870	8,270	PL 74–738
Center Hill Lk	TN Dekalb	Caney FK	T A	762.0	685.0	648.0	23,060	6,790 18,220	PL 75–761.
		•	<u>-</u>	492.0	648.0	618.0	18,220	14,590	
Charles Mill Lk	OH Ashland	Black Fk	н н Я.	80.6	1,020.0	997.0	6,050	1,350	PW 1933.
Cheatham L&D	TN Cheatham	Cumberland R		19.8	385.0	382.0	7,450	5,630	RHA 1946, PL 396.
			z	84.2	382.0	345.0	5,630	0	PL 396.
Clendening Lk	OH Harrison	Brush Fk	FCR RO	27.5	910.5	898.0 893.0	2,620	1,800	PW 1933.
Conemaugh River Lk	PA Indiana, Westmore-	Conemaugh R	ш	270.0	975.0	880.0	6,820	300	PL 74-738, PL 75-761.
Cordell Hull Dam & Res	TN Smith	Cumberland R	PR:	17.8	504.5	499.0	12,200	9,820	RHA 1946.
7 - 1 J G04001	DA Armetrona	ال المارويان	œ Z u	0.0	499.0	424.0	9,820	350	
Dale Hollow LK	TN Clay	Obey R	. LL	353.0	663.0	651.0	30,990	27,700	PL 75–761.
	•	•	<u>_</u>	496.0	651.0	631.0	27,700	21,880	
Dashields L&D	PA Allegheny	Ohio R	Zμ	0.0	692.0	682.0	0 0	0	RHA 1909.
Odd O EX	On Pickaway		FCR	14.6	810.0	796.0	1,277	727	PL /3-/01.
Delaware Lk	OH Delaware	Olentangy R	ш	118.0	947.0	915.0	8,550	1,270	PL 75-761
			FCAR	5.6	915.0	910.0	1,270	920	200
Dewey LK	KY Floyd	Johns Cr	با ۲ 0	70.7	650.0	6450	3,340	001,1	PL /5-/61
Dillon Lk	OH Muskingum	Licking R	<u>د</u> ک	256.5	790.0	737.0	10,280	1,560	PL 75-761.
			FCR	4.4	737.0	734.0	1,560	1,330	
Dover Dam	OH Tuscarawas	Tuscarawas R	Шι	203.0	916.0	858.0	10,100	0 0	PW 1933.
E BI Clarion Kivel Lake		E Br Clarion R	FCAR	0.60	1,685.0	1,670.0	1,370	920	PL /8-526.
E Fk Res Wm H Harsha Lk	OH Clermont	E Fk Little Miami R	, , , , ,	202.2	795.0	733.0	4,600	2,160	PL 75–761.
;			FMCAR	73.6	733.0	683.0	2,160	820	;
East Lynn Lk	WV Wayne	E Fk Twelvepole	LL L	65.3	701.0	662.0	2,351	1,005	PL 75–761.
Emsworth L&D	PA Alleahenv	Ohio R	Ž Z	0.0	710.0	692.0	0,	023	RHA 1909.
Fishtrap Lk	KY Pike	Levisa Fk	L	126.7	825.0	757.0	2,681	1,131	PL 75–761.
			FCAR	27.2	757.0	725.0	1,131	269	
Gallipolis L&D	WV Mason	Ohio R	z	0.0	538.0	515.0	0	0	RHA 1935.
Grayson Lk	KY Carter	L Sandy R	IL I	89.6	681.0	645.0	3,633	1,509	PL 86–645.
			L CAR	10.7	645.0	637.0	1,509	1,159	0000
Green R L&D 1	KY Mclean	Green R	zz	0.0	349.1	337.3	0 0	0 0	KHA 1888. RHA 1888
Green River Lk	KY Taylor	Green R	Z IL	479.1	713.0	675.0	19,100		PL 75–761.
			FAR	81.5	675.0	664.0	8,210		4000
Greenup L&D 3	KY Greenup	Ono R	z	0.0	0.010	485.0	5	5	KHA 1909.

APPENDIX E TO § 222.5—LIST OF PROJECTS—Continued

	į	AFFENDIA E 10 8222.3-EN	FISH OF FROMEOUS		ממ				
		i	Project pur-	Storage	Elev limits feet	its feet	Area in acres	acres	
Project name¹	State/county	Stream ¹	pose 5	1,000 AF	Upper	Lower	Upper	Lower	Auth legis ³
Hannibal L&D	OH Scioto WV Wetzel	Ohio R	z	0.0	623.0	602.0	0	0	RHA 1909.
Hildebrand L&D	WV Monongalia	Monongahela	ZL	0.0	835.0	814.0	0 000	0 8	RHA 1950.
		Wabasii R	r Kr	8.4	749.0	737.0	006,	200	
J Percy Priest Dam & Res	TN Davidson	Stones R	L 0	252.0	504.5	490.5	22,720	14,400	PL 75–761.
			FP.	0.00	489.5	483.0	14,000	11,630	
JW Flannagan Dam & Res	VA Dickenson	Pound R	Ţщ	78.6	1,446.0	1,396.0	11,630	10,570	PL 75–761.
Xenticky R - S - S - S - S - S - S - S - S - S -		Kentiicky R	FMCR	16.5	1,396.0	1,380.0	1,143	310	RHA 1879
Kentucky R L&D 2		Kentucky R	z	0.0	444.0	430.0	0	0	
Kentucky R L&D 3	KY Henry Owen	Kentucky R	z z	0.0	457.1	444.0	0 0	00	RHA 1879.
Laurel River Lk		Laurel R	z o	185.0	1,018.5	982.0	090'9	4,200	
			~	250.6	982.0	760.0	4,200	0	
Leesvillie Lake	OH Carroll	McGuire Cr	IT III	17.9	977.5	963.0	1,470	1,000	PW 1933.
London L&D	WV Kanawha	Kanawha R	, Z	0.0	614.0	2000	0	0	
Loyalhanna Lk	PA Westmoreland	Loyalhanna Cr	L U	93.3	975.0	910.0	3,280	210	PL 74–738.
M J Kirwan Dam & Res	OH Portage	W. Br Mahoning R	2 11	22.0	993.0	985.5	3.240	2.650	
		0	FCAR	52.9	985.5	951.0	2,650	220	
Mahoning Cr Lk	PA Armstrong	Mahoning Cr	L	64.7	1,162.0	1,098.0	2,370	280	
C 00 1 10 10 10 10 10 10 10 10 10 10 10 1	ly Cuitoring IN	٥	FRC	5.1	1,098.0	1,075.0	280	170	PL 75-761.
ואומן אומן אומן אומן אומן אומן אומן אומן	KY Gallatin	2 2 2 2	2	9.	0.00	420.0	>	>	_
Marmet L&D	WV Kanawha R	Kanawha	z	0.0	590.0	266.0	0	0	RHA 1930.
Martins Fk Lk	KY Harlan	Martins Fk of Clover R	Ľ.	14.3	1,341.0	1,310.0	578	340	
			Y Y Y	3.7	1,300.0	1,300.0	274	4/2	
Maxwell L&D	PA Fayette Washington	Monongahela R	z	0.0	763.0	743.5	0	0	
McAlpine L&D	KY Jefferson	Ohio R	z	0.0	420.0	383.0	0	0	RHA 1909.
	IN Clark		:						
Meldahi L&D	OH Clermont	Ohio R	z	0.0	485.0	455.0	0	0	RHA 1909.
Mississinewa Lk	IN Miami	MIssissinewa R	ш	293.2	779.0	737.0	12,830	3,180	PL 85-500.
		:	H F	51.9	737.0	712.0	3,180	1,280	
Mohioogillo Dom	OH Coshocton	Walhonding R	L L	285.0	890.0	799.2	7,950	0 0	PW 1933.
Monongahela R L&D 2			LΖ	0.0	718.7	710.0	000,0	0	
Monongahela R L&D 3	PA Alleghený		_	0.0	726.9	718.7	0	0	

Monongahela R L&R 4	PA Washington West-	Monongahela R	z	0.0	743.5	726.9	0	0	RHA 1909.	
0	moreland.		-	Ċ	1	0	((000	
Mononganela R L&U /	PA Greene, Fayette	Mononganela R	2 2	0.0	704.0	7700	> 0	0	KHA 1922.	4070
Mononganela R L&U 8	PA Greene, rayette	Mononganela K	Z L	0.0	0.787	7.8.0	0 0	0 1	KHA 1922, 1950	, 1973.
Mionroe LK	IN Monroe	valt Cr	- L	728.8	0.000	538.0	18,450	00,730	FCA 1858.	
Nontraction and a second	200000	0.140		6.60	0.000	0.00	00,70	3,200	1000	
Monigornery Island Lad	TA Deavel	2010	2 0	0.0	002.0	004.0	0 0	2	NTA 1909.	
Morgantown L&D	WV Monongalia	Z	0.0	814.0	0.787	<u> </u>	0	KHA 1909		
Mosquito Cr. I k	OH Trimbiil	Mosquito Cr	ц	21.7	0040	901 4	000	7 850	PI 75-761	
)		FMCAR	80.4	901.4	6 6 6 8	7.850	7,220		
N Br Kokosing River I k	OH Knox	North Br of Kokosing R	ш	13.9	1.146.0	1,121,0	1.140	154	PI 87-874	
N Fk Pound Lk	VA Wise	N Fk Pound R	. LL	8.0	1.644.0	1,611.0	349	154	PL 86–645.	
			FMCR		16110	1 601 0	154			
New Cumberland L&D	WV Hancock	Ohio R	z	0.0	664.5	644.0	0	0	RHA 1909.	
	OH Jefferson		_	!	!		1	•		
Newburgh L&D	KY Henderson	Ohio R	z	0.0	358.0	342.0	0	0	RHA 1909.	
	IN Warrick									
Nolin Lk	KY Edmonson	Nolin R	L	439.2	260.0	212.0	14,530	2,790	PL 75–761.	
			٣.	106.4	515.0	490.0	2,790	2,890		
Ohio R L&D 52	KY McCracken	Ohio R	z	0.0	302.0	290.0	0	0	RHA 1909, 1910, 1918.	, 1918.
Ohio R I &D 53	IL MassacKY Ballard	Ohio R	z	0	290.0	2766	c	C	RHA 1909 1910 1918	1918
	IL Pulaski		•	3	9	2	•	•		2
Old Hickory L&D	TN Davidson Sumner	Cumberland R	۵	63.0	445.0	445.0	22,500	19,550	19,550 RHA 1946.	
			z	357.0	442.0	375.0	19,550	0		
Opekiska L&D	WV Monongahela	Monongahela R	z	0.0	857.0	835.0	0		RHA 1950.	
Paint Cr Lk	OH Ross, Highland	Paint Cr	ш	124.7	845.0	798.0	4,761	1,190	PL 75–761.	
			FMCAR	11.4	798.0	787.5	1,190	140		
Paintsville Lk	KY Johnson	Paint Cr	L.	32.8	731.0	709.0	1,867	1,139	PL 89–298.	
			FCAR	36.3	709.0	650.0	1,139	261		
Patoka Lk	IN DuBois	Patoka R	ı.	121.1	548.0	536.0	11,300	8,880	PL 89–298.	
			FMCAR	167.3	536.0	506.0	8,880	2,010		
Piedmont Lk	OH Harrison	Stillwater Cr	T I	32.2	924.6	913.0	3,170	2,310	2,310 PW 1933.	
			ž :	8.6	913.0	909.0	2,310	1,987		
Pike Island L&D	WV Onlo	Onlo R	z	O.	0.44.0	623.0	0	0	KHA 1909.	
7 - 1:1	OH Delinon	Close	ц	7.4.2	1 065 0	1 000	2,600	OZG.	DW 1033	
		2	٥		0.000	1,020.0	2,000	627		
A L Valley L	Mingo Wyoming	Glivandot B	<u></u>	169.5	1 155.0	1 035 0	2 850	630	PI 87-874	
			FCAR	12.2	1.035.0	1.012.0	630	404	5	
Racine L&D	WV Mason	Ohio R	z	0.0	560.0	538.0	0	0	RHA 1909.	
	OH Meigs			-			,			
Rough River Lk	Grayson, Breckinridge	Rough R	L	214.4	524.0	495.0	10,260	5,100	PL 75–761.	
	Ridge		FMR	90.2	495.0	470.0	2,100	2,180		
Salamonie Lk	IN Wabash	Salamonie R	L 6	202.9	793.0	755.0	9,340	2,860	PL 85-500.	
S appearance of a second of a	OH Guernsey	Sepeca Ek	<u> </u> ц	47.0	842.5	832.2	2,000	3 550	PW 1933	
		2	E C	12.8	832.2	828.2	3.550	2,000		
Shenango River Lk	PA Mercer	Shenango R		151.0	919.0	896.0	11,090	3,560	PL 75-761.	
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APPENDIX E TO § 222.5—LIST OF PROJECTS—Continued

		ć	Project pur-	Storage	Elev limits feet	its feet	Area in acres	acres	-
Project name	State/County	orieani.	pose ²	AF T	Upper	Lower	Upper	Lower	Auth regis
Smithland L&D	KY Livingston	Ohio R	FCAR	29.9	896.0 324.0	885.0 302.0	3,560	1,910	RHA 1909.
Summersville Lk	WV Nicholas	Gauley R	F 0	221.9	1,710.0	1,1652.0	4,913	2,790	PL 75–761.
Sutton Lk	WV Braxton	EIK R	FCAR	0.09	925.0	850.0	1,520	270	_
Tappan Lk	OH Harrison	L Stillwater Cr	<u>د</u> لا لا	26.5	909.0	899.3	3,100	2,350	PW 1933.
Tionesta Lk	PA Forest	Tionesta Cr	<u> </u>	125.6	1,170.0	1,085.0	2,770	480	
Iom Jenkins Dam, Burr Oak, LK	OH Athens	E Br Sandy Cr	T H	17.6	721.0	721.0	1,192	394	
Tygart Lake	WV Taylor	Tygart R	LL İ	178.1	1,167.0	1,094.0	3,430	1,740	PWA 1934.
Union City Res	PA Erie	French Cr	T MACK	99.9	1,094.0	1,010.0	1,740	07.9	PL 87–874.
Uniontown L&D	KY Union	Ohio R	z	0.0	342.0	324.0	0	0	RHA 1909.
W FK of Mill Cr Winton Woods Lk Willow Island L&D	IN Posey OH Hamilton	W Fk Mill CrOhio R	ĽZ	8.6	702.0	675.0	557	183	PL 79–526. RHA 1909.
Wills Cr Lk	OH Washington OH Coshockton Wills Cr,		: њ	190.0	779.0	742.0	11,450	006	PW 1933.
Winfield L&D	WV Putnam	Kanawha R	SZ	0.0	0.0	0.0	00	00	RHA 1935.
Wolf Cr Dam, Lk Cumberland	KY Russell	Cumberland R	۵ ۱	2,142.0	723.0	673.0	50,250	35,820	75 75 10
Woodcock Cr Lk	PA Crawford	Woodcock Cr	L LL	15.0	1,209.0	1,181.0	775	325	
Youghiogheny R Lk	PA Fayette	Youghiogheny R	FCAR FCAR	99.5	1,181.0	1,162.5	3,570	2,840	FCA 1938.
		South Atlar	South Atlantic Division	2	2.5	2.	2,0	2,200	
Aberdeen L&D and Res	MS Monroe	Tombigbee R	zz	3.9	136.5	189.5	4,359	3,883	PL 79-525. Pl 79-525
Allatoona Dam & Res	GA Bartow	Etowah R	ĽL	302.6	860.0	840.0	19,201	11,862	PL 77–228.
1 - 0 mg C mg		0	PMAR	284.6	840.0	800.0	11,862	3,251	
b Everett Jordan Dam & LK	No chatham	13W K	FMCAR	140 4	240.0	2020	13,811	6,658	PL 88–253.
Bay Springs Lock Dam & Res		Tombigbee R	z	37.0	414.0	408.0	6,700	5,740	_
Buford Dam Lk, Sidney Lanier	GA Forsyth, Gwinnett	Chattahoochee R	LL (598.8	1,085.0	1,071.0	47,182	38,542	PL 79–14.
Carters Dam & Res	GA Murray	Coosawattee R	F PNMK	1,087.6	1,071.0	1,035.0	38,542	3,275	PI 79–14
			PRA	41.4	1,074.0	1,022.0	3,275	2,196	

5,210 PL 79-14.		7,500 PL 60–317.		11,310 PL 89–298.	1,190 PL 79–14.	_	55,950 PL 81–516. 27 650		2,040 PL 77–675.		48,900 PL 78–534.		8,730 PL 60-168.			2,615 PL /9-525.		_				2,880 PL 78–534.		26,653 PL 89-789.	24,117 10 470 DI 70_14					500 PL 83-780.					36,375 PL 81–516.	15,512 PL 87–874. 790 PL 60–317.
5,930 5,7	- 7				1,540 1,	:	61,400 55,			(,)		`	ò			7,041					3,800 1,			29,340 26,653			_		`	•	200 385,000	5				25,864 15, 790
						:				(.)			,	•	c	•		1	17								141,250				285,200				4	:
330.0	312.0	30.0	73.0	250.1	0.96	108.5	660.0				300.0	268.0	252.0	C: O	219.5	244.0	209.5	329.5	79.0	343.0	328.0	974.0	920.0				17.0	14.0	14.5	13.0	10.5	0.5	1,0	_		620.0
335.0	330.0	32.5	73.0	264.0	102.0	109.5	665.0	187.0	27.5	77.5	320.0	300.0	255.0	C: /	220.5	240.0	300.5	330.5	80.0	352.0	343.0	985.0	974.0	480.0	125.0	23.2	18.3	17.0	16.6	14.5	74.5	95.5	1.075.0	1.030.0	190.0	635.0 122.9
16.6	1,045.0	19.9	0.0	220.9	8.2	5.8	293.0	0.014,	13.0	20.0	1,281.4	1,027.0	27.1	7,039.0	0.0	7.7	0.0	6.0	16.7	46.5	34.3	34.2	111.2	140.0	44.6	48.0	181.9	273.2	236.3	165.0	1,661.0	ο. σ	112.0	33.0	244.0	306.1
Zμ	. L	zz	zz	F FMCAR	z	z	L U	L O	z	A D	ш	<u>د</u> :			zz	2 2	2 2	z	NP P	ш	RMA	ட	£ 1	T 6	L O	ŽZ	: L	FIMC	L i	LIMC	T L	2	L	. E	AN M	NPMAR N
				:	:	: :	:	:	: :	:	:		1,	_	:	:	:	: :	:	:	:	i		:	:	: :	4		ب		_		: :		:	
Alabama R		Tombigbee R	Tombigbee R	Neuse R	Chattahoochee R	Tombigbee R	Savannah R	Black-Warrior B	Cross FL Barge Canal	Apalachicola R	Roanoke R		Black-warrior R		 Tombigbee R	Templane R	Tombidhee RTombidhee R	Tombigbee R	Alabama R	Okatibbee Cr	Chickasawbay R	Smith R	-	Savannan K	Alahama R	Cross FI Barde Canal	Central and Southern FL		Central and Southern FL		Central and Southern FL	Black-Warrior B	Yackin R		Chattahoochee R	Chattahoochee R Black Warrior R
AL Monroe				NC Wake Neuse R	AL Houston Chattahoochee R		GA Hart		_	-:	VA Mecklenburg Roanoke R		AL IUscaloosa Biack-warrior K		 	Mo terrioration	÷	:	-:	:	_	VA Henry Smith R		GA Elbert Savannan K			_		FL Palm Beach Broward Central and Southern F		FL Broward & Dade		NC Wikes		GA Clay Chattahoochee R	

APPENDIX E TO § 222.5—LIST OF PROJECTS—Continued

	AFF	APPENDIA E 10 §222.3—LIST OF PROJECTS—COMMINGE	OF PROJECT	S—COIII	nen					
		ć	Project pur-	Storage	Elev limits feet	its feet	Area in acres	acres	;	
Project name 1	State/county	Stream	pose 2	1,000 AF	Upper	Lower	Upper	Lower	Auth legis 3	s SID
		South Paci	South Pacific Division							
Alamo Dam & Lk	AZ Mohave, Yuma	Bill Williams R	ш	1,046.2	1,235.0	1,174.0	13,307	7,045	PL 78–534.	
Bear Dam	CA Mariposa	Bear Cr	ш	7.7	413.5	344.0	265	0	PL 78-534.	
Black Butte Lk	CA Tehama	Stony Cr	Ē	137.1	473.5	414.6	4,453	277	PL 78-534.	
Brea Dam & Res	CA Orange	Brea Cr	ш	4.0	279.0	208.0	163	0	FCA 1936.	
Buchanan Dam H.V. Eastman Lk	CA Madera	Chowchilla R	шí	45.0	587.0	559.0	1,785	1,482	PL 78–874.	
C		(Ξı	140.0	587.0	466.0	1,785	484		
Burns Dam	CA Orange	Burns Cr	ı lı	8. 9	300.0	266.0	662 225	00	PL 78-534.	
Covote Valley Dam Lk Mendocino	CA Mendocino	East Fork, Russian R	ш	50.1	764.8	737.5	1.922	1.740		
		,	≥	72.3	737.5	637.0	1,740	20		
Dry Cr (Warm Springs) Lk & Channel	CA Sonoma	Dry Cr	L	136.0	495.0	451.1	3,600	2,600	PL 87-874.	
			MR	225.0	451.1	291.0	2,600	200		
Farmington Dam	CA San Joaquin, Stanislaus.	Littlejohn Cr	ш	52.0	156.5	120.0	4,107	0	PL 78–534.	
Fullerton Dam & Res	CA Orange	Fullerton Cr	ш	0.8	290.0	261.0	62	0		
Hansen Dam Res	CA Los Angeles	Tujunga Wash	ш	25.4	1,060.0	990.0	781	0	FCA 1936.	
	CA Madera	Fresno R	ш	65.0	540.0	485.8	1.567	811		
			Ē	85.0	540.0	448.0	1,567	280		
Isabella Lk	CA Kern	Kern R	正	568.1	2,605.5	2,470.0	11,454	26	PL 785-34.	
	CA Los Angeles	Pocoima Wash	ш	0.4	1,272.9	1,253.7	40	0		
Mariposa Dam	CA Mariposa	Mariposa Cr	ш	15.0	439.5	370.0	512	0		
	CA Nevada	Martis Cr	ш	19.6	5,838.0	5,780.0	762	61		
Mathews Canyon Dam & Res	NV Lincoln	Mathews Canyon	ш	6.3	5,461.0		300	0		
Mojave River Dam & Res	CA San Bernardino	Mojave R	ь	89.7	3,134.0	2,988.0	1,978	0		
New Hogan Lk	CA Calaveras	Calaveras R	ь	165.0	713.0	666.2	4,333	2,818	PL 78-534.	
			Ē	302.2	713.0	586.0	4,333	702		
Owens Dam	CA Mariposa	Owens Cr	ш	3.6	407.5	347.0	174	0		
Painted Roc Dam & Res	AZ Maricopa	Gila R	ш	2,491.5	0.199	524.0	53,200	0		
Pine Canyon Dam & Res	NV Lincoln	Pine Canyon	ш	7.8	5,675.0	5,604.0	254	0	PL 81-516.	
Pine Flat Lk Kings R	CA Fresno	Kings R	ш	1,000.0	951.5	565.5	5,956	0		
Prado Dam & Res	CA Riverside	Santa Ana R	ш	196.2	543.0	460.0	6,630	0		
San Antonio Dam & Res	CA Los Angeles	San Antonio Cr	ш	7.7	2,238.0	2,125.0	145	0		
Santa Fe Dam & Res	CA Los Angeles	San Gabriel R	ш	32.1	496.0	421.0	1,084	0		÷
Sepolveda Dam & Res	CA Los Angeles	Los Angeles R	ш	17.4	710.0	668.0	1,335	0	FCA 1936.	
Success Lk	CA Tulare	Tule R	Ē	75.0	652.5	588.9	2,477	409	PL 78-534.	
	CA Tulare	Kaweah R	Ē	136.1	694.0	570.0	1,913	276		
Whitlow Ranch Dam & Res	AZ Pinal	Queen Cr	ш	35.6	2,166.0	2,056.0	828	0		
Whittler Marrows Dam & Res	CA Los Angeles	San Gabriel Rio Hondo	ш	34.9	228.5	184.0	2,411	0		
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Southwestern Division

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Abiquiu Dam	NM Rio Arriba	Rio Chama	L	572.2	6,283.5	6,220.0	7,469	4,120	PL 80-858.
			Ψ	191.3	6,220.0	0.090,9	4,120	0	
Addicks Res	TX Harris	Buffalo Bayou	L	200.8	112.0	71.1	16,423	0	
Aquilla Lk		Aquilla Cr	L	161.4	564.5	537.5	8,980	3,280	PL 90-483.
			MR	93.6	537.5	478.6	3,280	26	
Arcadia Lk	OK Oklahoma	Deep Fork R	L	64.4	1,029.5	1,006.0	3,820	1,820	PL 91-611.
			FMCR	27.4	1,006.0	970.0	1,820	20	
B A Steinhagen Lk	TX Taylor, Jasper	Neches R	L	24.5	83.0	81.0	13,700	10,950	SD98-76-1.
Bardwell Lk	TX Ellis	Waxahachie Cr	ш	9.62	439.0	421.0	6,040	3,570	PL 86–399.
			Σ	45.8	421.0	372.6	3,570	0	
Barker Res	TX Harris Ft Bend	Buffalo Bayou	ш	209.0	106.0	73.2	16,734	0	HD250-83-2, RHA
Beaver Lk	AR Carrol, Benton,	White R	ш	299.6	1,130.0	1,120.0	31,700	28,220	PL 83-780.
	Washington.								;
:	:	1	FPM	925.1	1,120.0	1,077.0	28,220	15,540	PL 85-500.
Belton Lk	TX Bell	Leon R	ш.	640.0	631.0	594.0	23,600	12,400	PL 79–526.
			₹	372.7	294.0	470.0	12,400	42	HD88-81-1.
Benbrook Lk	TX Tarrant, Parker	Clear Fk Trinity R	ш	170.4	724.0	694.0	7,630	3,770	HD103-771.
			ΣZ	72.5	694.0	0.959	3,770	730	
Big Hill LK	KN Labette	Big HIII Cr	ш	13.1	867.5	858.0	1,520	1,240	PL 87-874.
			FMR	27.2	858.0	814.0	1,240	20	HD572-87-2.
Birch Lk	OK Osage	Birch Cr	ш	39.0	774.0	750.5	2,340	1,140	PL 87–874.
			FMCAR	15.8	750.5	730.0	1,140	384	HD563-87-2.
Blue Mountain Lk	AR Yell, Logan	Petit Jean R	L	233.3	419.0	384.0	11,000	2,910	PA 75-761.
Broken Bow Lk	OK McCurtain	Mountain Fk R	ш	450.2	627.5	599.5	18,000	14,200	PL 85-500.
			FRPMAC	469.8	599.5	5.655	14,200	9,200	
Bull Shoals Lk	AR Baxter, Marion,	White R	ш	2,360.0	695.0	654.0	71,240	45,440	PL 77-228.
	Boone.								
	MO Ozark, Taney	;	PF	1,003.0	654.0	628.5	45,440	33,800	
Canton Lk	OK Blain	N Canadian R	L i	265.8	1,638.0	1,615.4	15,710	7,910	PL 75–761.
			IW.	97.2	1,615.4	1,596.5	7,910	2,710	HD56-/75-3.
Canyon Lk	TX Comal	Guadalupe R	ш:	346.4	934.0	909.0	12,890	8,240	PL 79–14.
	:	i i	Σ ι	366.4	909.0	75.0	8,240	0	
Clearwater LK	MO Reynolds, Wayne	Black K	ı. I	391.8	567.0	494.0	10,400	1,630	PL /5-/61.
Cocniti LK	NIM Sandoval, Sante Fe,	Kio Grande	L	242.0	5,460.5	9,356.6	9,361	1,200	PL 86-645.
	Los Aigillos.		FRC	43.0	5.356.6	5.330.0	1,200	C	
Conchas Lk	NM San Miguel	Candian R	· L	198.8	4.218.0	4.201.0	13,664	9.692	HD 308-74.
	0			259.6	4,201.0	4,155.0	9,692	3,000	
Copan Lk	OK Washington	L Caney R	ш	184.3	732.0	710.0	13,380	4,850	
	KS Chautauqua		FMCA	42.8	710.0	687.5	4,850	110	
Council Grove Lk	KS Morris	Neosho R	ш	63.8	1,289.0	1,274.0	2,400	3,230	PL 81-516.
			FMAR	48.5	1,274.0	1,240.0	3,230	45	
DeQueen Lk	AR Sevier	Rolling Fork R	L	101.3	473.5	437.0	4,050	1,680	PL 85-500.
			FMCRQ	25.5	437.0	415.0	1,680	710	
Dierks Lk	AR Sevier, Howard	Saline R	ш	67.1	527.5	526.0	2,970	1,360	PL 85-500.
			FMCR	12.1	526.0	512.0	1,360	810	
Eldorado Lk	KS Butler Walnut R	Walnut R	L i	79.2	1,347.5	1,339.0	10,740	8,000	8,000 PL 89–298.
	_		FMAR	154.0	1,339.0	1,296.0।	8,000	420	HD232-89-1.

APPENDIX E TO § 222.5—LIST OF PROJECTS—Continued

0 ::- 1	Aum legis 3	HD440-76-1.	PL 79–525.		HD440–76–1.		FEC 1941.	KHA 1946. PI 74-738		PL 86–645.	PL 87-874. HD 591-82-2	PL 85–500.		PL 87–874.	103_77_1		PL 74–738.		75–761.	PL 83–780.	79–526.	1	PL //-228.	PI 79_526		PL 74-738.	84–843.	PL 80–858	PL 81–516.	PL 89–298.		PL 74–738.		PL 81-516.	PL 87–874.	:	PL 81-516.	
res	Lower	4,450 HD		46,120		1,170		1820 PI	0	0 1 1	1,310 PL 0 HD		310	4,400 PL	7 280 HD	41 41	8,693 PL	0	31,460 PL	3,740 PL	917 PL	394		3 250 PI	4.500	3,570 PL		1,370 PL		7,470 PL		11,655 PL		9,300 108				3,300
Area in acres	Upper Lo	13,150	7	105,480 4				2,100		2,060	3,220	4,680		11,040	4,400	7,380			40,480 3		3,700	917	1,200										11,655					
s feet		796.0					554.0		1,988.0	5,496.0	791.0				535.0		1,125.0				761.5	55.5	1,900.0					5,196.1		522.0				1,039.0				
Elev limits feet M.S.L.	Upper	825.0	597.0	585.0	987.5	948.5	582.0	2.028.0	2,004.0	5,608.0	834.0	269.0	502.0	528.0	560.0	535.0	1,138.5	1,125.0	487.0	461.0	784.0	761.5	1,920.0	437.5	404.5	765.0	733.0	5,232.0		536.0	522.0	3,870.0	3,851.0	1,068.0	1.044.5	1,010.0	754.0	723.01
Storage	AF	239.5	1,510.9	1,463.0	234.5	15.0	919.2	86.8	13.9	79.4	87.6	188.7	29.3	162.2	24.3	154.3	240.0	31.4	934.0	716.5	48.4	9 9	7.01	0.0	127.2	257.9	31.1	73.0		1,238.0	176.9	270.3	350.9	259.0 70.8	919.4	343.5	1,180.0	296.7
Project pur-	pose ²	T-1	Č E L	FNPM	ш	Α̈́Ι	L [Ľ LL	ΨL	ш	T M) L	FMCQ	ш.	≅ ц	. ≥	ш	5	ட	요 .	шi	Σ.	⊥ ≥	≅ ш	FMCAR	ш	FMA	ட		ш		ш	FRC	FMAD	į L	FMARC	ш	FNPMC
0	Steam	EK R	Candian R		Fall R	(Neosho (Grand) R	Wolf Cr)	Galisteo Cr	N.F. San Gabriel R	Cossatot R		San Gabriel R	Denton Cr	5	Salt Fk	Arkansas R	Little Red R		Polecat Cr		Hords Cr	Kiamichi R	,	Caney R		Jemez R		Mountain Cr		Arkansas R		Neosno K	Arkansas R		Arkansas R	_
	State/county	KS Montgomery	OK McIntosh, Pittsburg, Haskell		KS Greenwood		OK Wagoner	OK Woodward	5	NM Santa Fe	TX Williamson	AR Howard, Polk		TX Williamson	TX Denton Tarrant	Calloli, Tallalit	OK Alfalfa		AR Cleburne, Van Buren		OK Creek	C	IX Coleman	OK Choctaw		OK Osage	KS Chautaugua	NM Sandoval		TX Dalla, Ellis, Tarrant		CO Bent		KS Coffee	OK Kay, Osage	KS Cowley		_
Č	Project name	Elk City Lk	Eufaula Lk		Fall River Lk	:	Fort Gibson Lk	Fort Supply k		Galisteo Dam	Georgetown Lk	Gillham Lk		Granger Lk	A Leavine	כומספאדום בע	Great Salt Plains Lk		Greers Ferry Lk	:	Heyburn Lk		Hords Cr LK	H Coll H)	Hulah Lk		Jemez Canyon Dam		Joe Pool Lk		John Martin Res		John Redmond Dam & Res	Kaw Lk		Keystone Lk	_

140 HD 758-79, RHA 1946. 9,400 HD 758-79, RHA 1946. 3,180 HD 758-79, RHA 1946. 5,200 HD 758-79, RHA 1946. 4,130 HD 758-79, RHA 1946. 8,100 RHA 1946. 3,600 RHA 1946.	31,140 HD 758–79, RHA 1946. 8,800 RHA 1946, HD 758–79. 5,200 RHA 1946. 0 Pt. 79–525. 40,760 Pt. 79–525. 2,370 Pt. 79–525.	1,490	21,400 2,87 23,280 12	6,200 170 29,200 13,100	3,550	12,320		5,340 1,335 5,993	996 HD 88-71. 4,980 PL 85-500. 700 HD 170-85-1. 4 610 Pl 83-780 HD 535-81-	114,500 HD 981–76–1.
140 5 10,700 3,750 0 5,820 0 6,900 0 4,830 0 10,350 0 4,130 0 5,660	34,700 0 11,100 6,820 0 1,600 0 43,800 0 10,900		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5 9,050 0 6,200 2 95,200 0 29,200		30,700 0 21.990 0 3,220 0 1,310			5 17,230 0 4,980 0 14,010	-
142.0 3 160.5 3 180.0 3 221.0 3 229.0 7 247.0 0 284.0	2 336.0 5 370.0 0 389.0 0 6.0 0 458.0 0 487.0				424.5 5 375.3 0 342.0	•	0 1,908.0 0 1,836.0 0 638.0 0 592.0	9,9	0 443.5 0 443.5 5 414.0	·
142.0 162.3 182.3 196.3 213.3 231.3 249.7 265.3	338.2 372.5 392.0 413.0 460.0 490.0			1,358.5 1,350.5 287.0 259.2		552.0 834.0 791.0				•
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					: :					
Arkansas Post Canal Arkansas R	Arkansas R Arkansas R Arkansas R Arkansas R Arkansas R Arkansas R	Verdigris R	East Fork, Trinity R Elm Fork Trinity R	Cottonwood R	Richland Cr Fourche La Fave R	Notification of the second of	N. Concho K	N. Candian RSanders Cr	Little R	Angelina R
	AR Franklin Arkansas R Arkansas R Sebastian, Crawlon Arkansas R CK Sequoyah, Leflore Arkansas R Ark			npstead	AR Perry, Yell Source Fourche La Fave R Source Source Fourch Bayes R Source Source Fourch Bayes R Source Bayes R Source Fource Bayes R Source		OK Rogers	OK Texas	OK McCurtain Little RTX Comanche	Augus- a.

APPENDIX E TO §222.5—LIST OF PROJECTS—Continued

	Lower	ı	3,823 PL 83-780.	3,823	13,610 HD 602-79-2.	40	11,460 PL 83–780.	0	10,190 HD 563-87.	1,430	6,430 PL 83–780. 0	43,070 PL 77-228.	27,300 FCA 1938.	12,900 RHA 1946.		88,000 PL 75-761.	41,000	2,660 HD 440–76–1.	1,720	1,453 PL 85–500.	0	0 PL 83–780.	7,270 PL 83-780.		10,100 PL 88-253.	830	23,560 PL 77–228.	475 HD 390-76-1.		20,300 PL 79–526. 0
Area in acres	Upper	114,500	10,740	7,115	16,960	13,610	24,400	11,460	13,690	10,190	11,830	52,250	43,070	20,800	12,900	144,000	88,000	11,740	2,660	2,107	1,453	4,806	19,440	7,240	15,000	10,100	49,820	23,560	23,070	119,700
its feet	Lower	149.0	4,776.5	4,746.2	299.0	545.0	238.0	200.0	714.0	657.0	622.0	915.0	881.0	632.0	594.5	617.0	290.0	901.5		6,2		3								220.0
Elev limits feet M.S.L.	Upper			4,776.5	0'209	599.0	258.0				666.0		915.0				617.0					4								259.5
	AF AF	1,446.2	340.0	160.0	122.6	274.2	337.7	143.9	178.0	311.6	390.6	760.0	1,181.50	576.7	371.0	2,669.0	1,612.0	179.8	10.7	58.0	20.0	150.0	3.3	100.8	140.4	199.7	1,372.0	381.9	387.0	2,363.7
Project pur-	pose 2	PMC	ш	正	L	FMR	ш	Σ	ட	FMARC	և ≥	L	FP	L	FP	L	FPM	ш	FMA	L	Ē	L	L	Σ	LL.	FMCAR	L	PM	L	LΕ
1	E																													
č	Ollea		Pecos R		Jackfork Cr		Yegua Cr		Hominy Cr		Lampasas R	White R		Illinois R		Red R		Verdigris R		Purgatorie R		Rio Hondo R	Bosque R	,	Beaver Cr		Brazos R		Pouteau R	Sulphur R
	State/County Street		NM Guadalupe Pecos R		Sardis OK Pushmatah Jackfork Cr		TX Washington, Lee, Yegua Cr Burleson.		OK Osage Hominy Cr				AR Carroll, Boone	OK Cherokee, Sequoyah Illinois R		Red R	OK Bryan, Cook, Gray-	oodson		CO Las Animas Purgatorie R		_	TX Mclennan Bosque R		OK Jefferson Beaver Cr		TX Hill, Bosquel Brazos R			TX Bowie, Cass Sulphur R

¹Res—Reservoir; Lk—Lake; Div—Diversion: R—River; Cr—Creek; Fk—Fork; L&D—Lock & Dam; GIWW—Gulf Intercoastal Waterway; FG—Floodgate; CS—Control Structure: DS—Drain-age Structure; PS—Pump Station.

²F—Flood Control; N—Wavigation; P—Hydrower; I—Irrigation; M—Municipal and/or Industrial Water/Supply; C—Fish and Wildlife Conservation; R—Recreation; A—Low Flow Aug-mentation or Pollution Abatement: Q—Quality or Silt Control.

³PL—Public Law; HD—House Document; RHA—River & Harbor Act; PW—Public Works: FCA—Flood Control Act; WSA—Water Supply Act.

[47 FR 4454, Oct. 8, 1982, as amended at 52 FR 15804, Apr. 30, 1987; 52 FR 23816, June 25, 1987; 57 FR 35757, Aug. 11, 1992. Redesignated at 60 FR 19851, Apr. 21, 1995]